

## CHAPTER III

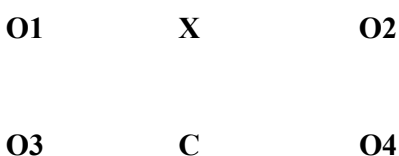
### METHODOLOGY

#### 3.1.0 INTRODUCTION

Chapter III deals with the method section that describes the details of the work conducted by the researcher in the study. There are many subsections that determine the subjects and procedures. Subjects include the selected participants, demographic characteristics, and sufficient information about the sample. The section of procedures includes the steps of measurements devices, order of assessment, experimental treatments, design features, the time-period needed, and the additional sections related to statistical data analysis (Best & Kahn, 2014). The present study was experimental in nature. The experimental research applies to test hypotheses to find out cause and effect relationship. The main objective of the study is to enhance values and thinking among students through stories. So, according to the objectives of the study, the researcher has planned here separate Story sessions. Sample has been selected from the same block of Bargarh district for both experimental and control group. The intervention as planned given throughout an academic year to the upper primary school students of experimental group. A proper blueprint and deadline have been made for this study. The methodology of this study is composed of research design, population, sample, variables, tools of data collection, story session and cognitive lesson plan, development of story Model and different phases of it, implementation of the model and at the end data collection procedure and analysis method.

#### 3.2.0 RESEARCH DESIGN

In the present study quasi-experimental research design has been used. This was a non-equivalent design because random assignments to experimental and control treatments have not been applied. Under this pre-test and post-test non-equivalent groups design had selected as it was convenient for this study. The design of the study is presented as follows.



Where **O1 & O3** are pre-tests

**O2 & O4** are post-tests.

**X** stands for **experimental group**

**C** stands for **control group**

At the beginning of experiment Pre-test conducted on both the experimental and control group through 'Intelligent test' of Raven. Then the process of group matching is done through Intelligent scores of both groups. After this intervention/treatment has started to be given to the experimental group. Story session conducted at least two days every week preferably Friday and Saturday up to the end of their academic session. In the other hand, after conducting pre-test of control group, they were not introduced to any of the story sessions, it means they have not given treatment by the researcher.

### **3.3.0 VARIABLES OF THE STUDY**

Variables are those conditions which can be manipulated, controlled, and observed by the researcher. There were mainly two variables here. In this experimental study following Independent and Dependent variable taken.

#### **Independent Variable**

The independent variable also called the casual, treatment, and experimental variable (Gay et al, 2012). Independent variables are those whose effects are being studied. It is the treatment which is believed to make difference. In the present study, compilation of stories with the Story Model was considered as the independent variable.

#### **Dependent Variable**

Dependent variables are those which are affected by independent variables. The control and manipulation of independent variable results on dependent variable. The dependent variable brings changes in students' performance with the influence of independent variable (Best & Kahn, 2014). In this study Values (Personal, Social and Universal), Thinking (Critical, Creative, Reflective and Moral) and Reaction of students towards the stories were considered as dependent variables.

### **3.4.0 POPULATION**

All the elementary school students of Odisha-state studying in the vernacular medium elementary schools affiliated with the Board of Secondary Education in Odisha was comprised as the population of the present study. According to Samagra Shiksha Annual Report 2022-23 besides Govt aided, unaided and central Govt managed there are total 42739 Govt Elementary schools (Class I- VIII), with total enrolment number of 4352262 students, out of which 1640765 is of Upper Primary school students (Class 6-8).

### **3.5.0 SAMPLE AND SAMPLING TECHNIQUE**

The convenient sampling technique from non-probability sampling types, has been used to draw the sample for this study. As per the convenience of the researcher and the study two Elementary schools of Bargarh district of Odisha have been selected with the purpose of feasibility of the experimentation. Out of those, one school was selected as a control group and one selected as an experimental group. As previously mentioned in the rationale part, here the researcher targeted sample age is 11-12 years based on the criteria of study, Upper Primary schools' students, standard 6<sup>th</sup>, and 7<sup>th</sup> could be the sample for the study. So, as per convenience, the researcher visited two different schools from the very beginning of research and established a good rapport with teaching staff of concerned schools. Before taking written permission, the researcher already took informal permission from them to make the experiment hurdle free. And in the academic session 2023-2024 finally researcher took the written permission from both the schools and conducted pre-test there in the month of April 2023.

All the students studying in standard sixth of selected schools were the sample for the study. The sample of this study were sixth-class students of two schools of Bargarh district, namely Government U. P. School of Badmal as experimental group and Government U.P School of Sukuda as control group. There was a total of thirty-five students in the experimental group and 32 students in the control group. Both groups have been made equivalent on the basis of Intelligent scores derived after conduction of Raven's Intelligent Test. After making it equivalent to the two selected groups there were twenty students in each of the groups. So, there were a total of forty students that constitute the sample of this study.

### 3.6.0 TOOLS FOR DATA COLLECTION

Tools are the measuring instruments that differ from study to study. In this study researcher prepared tools by herself in English language but as because it was for Odia medium students, later it was translated to Odia language. Tools are validated by subject experts and language experts. Also, pilot studies of both the scales, Value Perception and Thinking Scale have been done. For this purpose, Cronbach's Alpha, which tests internal consistency between items, has been used here. As per the result, the reliability score of Value Perception Scale is found to be 0.910 whereas reliability score of Thinking Scale is 0.774. According to the objectives of the study, tools that have been used for data collection. There was a total of five tests implemented but six tools have been used in this study. A diary of anecdote throughout the story sessions also maintained which is supplement tool of the study.

**Table 3.1: Details of all the tools used in the study**

Test Number	Test Names	Number of Items	Highest Score	Type
I	Raven's Progressive Matrices	60 Items	60	Raven, 1956
II	Values Knowledge Test	45 Items	90	Self-Made
III	Values Perception Scale	45 items	180	Self-Made
IV	Thinking Scale	40 Items	160	Self-Made
V	Reaction Scale	25 Items	-	Self-Made
VI	Diary of Anecdote	-	-	Researcher's Notes

First, for pre-test the researcher has used Raven's Progressive Matrices. As per the requirement, the researcher has developed another four tools for the study. Two tools for value enhancement purpose: Value Knowledge Test and Value Perception Scale, one for assessing students' thinking enhancement that is Thinking Scale and lastly Reaction Scale to know students' reaction. All the developed tools validated by experts from the researcher before implementation. For Value Perception Scale and Thinking Scale a Pilot study has been done.

The 'Value Perception Scale' includes three types of values with 15 sub types under it and 'Thinking Scale' covers 4 types of thinking and 20 subtypes under it. The items were made based on the different dimensions of each subtype. It implies that no single value has a single measurement. The measurement took place from each dimension for better and accurate results. In order to note down the changeable behaviour of students due to story sessions and for the purpose of recording the data, a diary of anecdote maintained by researcher from the beginning of experiment up to its end. These can be discussed here one by one as follows.

### **3.6.1 INTELLIGENT TEST**

The word intelligence refers to the functional intelligence which revealed the course of action. Usually, it is understood as common knowledge. Intelligence is the integration of different patterns of behaviour that include sensory activity as well as motor activity or any unobservable activities associated with behaviour. The intelligence test does not have any objective criteria, and it is subjective (Simon, 1971). The intelligence test measures innate quality of children, but it includes social consideration in it. Intellectual talent is variable which can be modified by social policy and educational approaches, so an intelligent test measures the acquired characteristics. Changes and development in a cognitive structure can be brought with the interaction of physical and social environment (Piaget,1958). It means a child develops intellectually depending on his life experiences at home as well as at school. It means that intelligence is a variable, under which all other variables related to child's behaviour fall. That is why values and thinking are also among those variables which come from Intelligence only. These two variables are closely associated with the cognitive ability of child.

Here, the Intelligence test was preferable pre-test for conducting any social science research for the purpose of matching the experimental and control group. In this study, for the purpose of group matching this Intelligence test has been applied to students of both experimental and control group at the beginning of experiment. The non-verbal intelligence test has been used by the researcher as the pre-test here. The standard progressive matrices (SPM) test prepared by J. C. Raven in 1956, popularly called Intelligent Test. This test is the non-verbal group test and there are five sections/Sets each having twelve items in it, total 60 items are there. The test is used to measure intelligence through abstract reasoning of students. All the items have a visual design and a missing part inside it. There are 6 to 8 options to fill out the missing part. This usually can administer with time limit of 40-60 minutes. Raven's Standard Progressive Matrices (SPM) can be useful to people, especially 6-16 years of age but could also be applied

to adults. This Raven's SPM is helpful to assess an individual's cognitive ability with some logical skills.

### 3.6.2 VALUES KNOWLEDGE TEST

To measure value knowledge of students, the researcher has prepared Value Knowledge Test. Initially there were 75 Items but after discussion with the supervisor, suggestions from experts and after the standardized procedure 45 items were only retained. There are Mainly 3 types of values namely, Personal Values, Social Values and Universal Values selected by the researcher in this test construction by considering class, age and location. It means each type of value having 15 items under it and each component containing 3 items under it. The researcher has made three different sections for three types of value (Personal, Social and Universal). Each section has five components, and each component has 3 items based on three decided dimensions. Components of Personal values were- Honesty, Cleanliness, Punctuality, Self-confidence and Discipline; Social Values- Teamwork, Unity, Kindness, co-operation and Leadership; and Universal values- Love, Respect, Helpfulness, Equality and Brotherhood.

The formulated three items covered three dimensions under each component, that is 1. Meaning, 2. Example and 3. Importance of that particular component. Like- question regarding Honesty components were like- 1. What is the meaning of Honesty? 2. Give an example of Honesty? and 3. What is the importance of honesty in human life? Likewise, the questions were formed for other components also.

Here the items were open-ended for students as it was only to test their knowledge about the different types of values. Scoring of 'Value Knowledge test' was from 0.5 to 2, like; **0.5** mark- half right answer, **1** mark - right answer, **2** marks- exact and fully answered for each of the items. There was no zero marking unless students did not attempt. The scores and items distributed inside the test can be explained through the table.

**Table 3.2: Items Distributions for each dimension of the Value Types for Value Knowledge Test**

Personal Values	Honesty	Cleanliness	Punctuality	Self-Confidence	Discipline
Number of Items 15	3	3	3	3	3

Total Score 30	6	6	6	6	6
Social Values	Teamwork	Unity	Kindness	Co-operation	Leadership
Number of Items 15	3	3	3	3	3
Total Score 30	6	6	6	6	6
Universal Values	Love	Respect	Helpfulness	Equality	Brotherhood
Number of Items 15	3	3	3	3	3
Total Score 30	6	6	6	6	6

So, there were a total of 45 number of items which divided the test into three sections, 15 items in each section. The highest score was 30 marks for each section separately and for overall, it was 90 marks.

### 3.6.3 VALUES PERCEPTION SCALE

The second phase of value enhancement needs Perception test. In order to measure the value perception of students, the researcher has prepared a Value Perception Scale. As previously discussed, there are three types of selected while constructing this tool by the researcher and each value having 5 components in it and each component having some dimensions in it. So earlier there were 6-7 dimensions covered by the researcher so there was a total of 80 items. But later, after validation procedure 45 items were there in the final version covering 15 dimensions under three different sections. The final modified Scale translated to Odia language. So, both the language experts and subject experts have been approached for these purposes. After this, Pilot study has been done. To check the reliability of the test the researcher applied the Cronbach Alfa test. From the result of the test, the test internal consistency was found to be excellent, that was 0.910. The details about the test can be provided on a table here.

All the three types of value are having Five components in it and each components having 3 different dimensions based on which items have been prepared. For example, three items

formulated for 'Honesty' component of personal values were based on three different dimensions: not to cheat (1 item), not to steal (1 item) and saying truth (1 item), total three items. Likewise, items for other components have been formed by selecting at least three dimensions of decided value types. The components and their dimensions have been discussed here.

The dimensions of personal values components were like: - Honesty-Not to cheat, not to steal and being truthful; Cleanliness-cleaning of surroundings, taking care of own health and maintaining hygiene; Punctuality-managing the time, utilizing time properly and making a schedule; Self-confidence-self-consciousness, self-belief and positive attitude; Discipline-managing emotion, following rules and being obedient. The dimensions for the components of social values were like: - Teamwork- working together in a group, following norms of a group and understanding problems of each other in a group; Unity- Feeling of oneness, respecting diversity and giving priority to the nation; Kindness- being empathetic, showing compassion and caring or serving the needy; Co-operation: - supporting each other, accepting the fault of each other and being together; Leadership- inspiring others, demonstrating positivity and being an example for taking right decision. The dimensions for components of universal values were like: - Love-being selfless, being caring and developing bonds; Respect- Polite attitude, dignity to works and respecting people/nation; Helpfulness- solving someone's problem, helping the needy and being in support; Equality- treating people equally/not to biased, doing justice and not discriminating; Brotherhood- maintaining peace, respecting rights of other and mutual support or feeling of fraternity.

Items have been formed by taking each component and its three dimensions into consideration, one item per one dimension of components has been formed here. It means there were a total of 45 dimensions in Values Perception scale. There were four options in each item, Options **a**, **b**, **c**, and **d**. These options have been organised in a scaled manner started from higher level to lower where option- **a**' is considered to be high whereas option- **d**' is lower level. Scoring of 'Value Perception Test' items scoring was from 4 to 1, like this; **a- 4** marks, **b- 3** marks, **c- 2** marks, **d-1** mark. Here. Options have been randomly arranged after validation before implementation on students. Sometime third person has been used in the situation of 'Value Perception Test' because direct question may affect the student, and they cannot say truth about it.

**Table 3.3: Items Distributions for each dimension of the Value Types for Value Perception Scale**

<b>Personal Values</b>	Honesty	Cleanliness	Punctuality	Self-Confidence	Discipline
Number of Items 15	3	3	3	3	3
Total Score 60	12	12	12	12	12
<b>Social Values</b>	Teamwork	Unity	Kindness	Co-operation	Leadership
Number of Items 15	3	3	3	3	3
Total Score 60	12	12	12	12	12
<b>Universal Values</b>	Love	Respect	Helpfulness	Equality	Brotherhood
Number of Items 15	3	3	3	3	3
Total Score 60	12	12	12	12	12

So, there were a total of 45 number of items which divided the whole scale into three different sections, 15 items in each section. As there were four options in each item, the highest score per item was 4. The highest score for each section was 60 marks separately and for overall, it was 180 marks.

#### **3.6.4 THINKING SCALE**

A thinking scale has been developed by the researcher to measure the thinking of the students on the basis of different thinking types. The selected types of thinking for constructing the tool

considering the age of students and topic of researcher study are Critical thinking, Creative thinking, Reflective thinking, and Moral Thinking. Initially, like Value Perception scale 80 items for Thinking scale have been formed. After discussion with the guide, it was reduced to 60. After experts' suggestions it again reduced to 40. The final Scale translated to Odia language. So, both the language experts and subject experts have been approached for validation purposes. After this Pilot study have been done by the researcher by applying Cronbach Alfa to check reliability of the test. From the result of it, the reliability or the internal consistency of the tool was found to be 0.774. The details about this tool can be explained on the table below.

There was a total of 40 items, each 4 types of thinking had 5 components in it and each component has 2 different dimensions under it based on which 2 items have been formed. The dimensions are made on the basis of meaning and definitions of thinking types. For example, the component 'analysing' of 'Critical thinking' include two dimensions that is Analysing a situation or problem (1 item) and analysing a person (1 item), total 2 items. It means 10 items per type of thinking that divided the test into 4 parts and finally total 40 items remained there. So, there was a total of 20 components, five under each type of thinking and 40 dimensions, ten under each type of thinking. The components and their dimensions have been discussed here.

The dimensions chosen under the components of critical Thinking were: - Analysing- analysing a situation and analysing a thing by own, Inferring- idea to make short anything and deriving the idea, Observation- observing a situation and observing a thing/person, Decision making- taking right decision and recognizing own needs, Problem-solving- finding out the solution and being capable of solving own problems. The dimensions of Creative thinking components were: - Fluency- having clear idea and doing work perfectly; Flexibility- accepting different ideas and thinking from different angles; Elaboration- giving a clearcut description and well explanation; Originality- being unique and not stealing others idea; Integration- combining the ideas and correlating the ideas. The dimensions selected for the components of Reflective thinking were: -Systematic-arranging something properly and following a systematic procedure; Judgmental- differentiating the good things and justifying something; Logical- finding cause-effect relationships and logically understating a situation; Self-assessment- knowing own strength/weakness and realizing the own mistakes; Using insight- interrogating to believe and knowing someone's hidden intension. The dimensions of components relating

to Moral thinking were: - Following and Applying rules and following a standard; Following Guidelines- obeying the rules and following a routine; Knowing right or wrong- quitting bad behaviour and having good manners; Reasoning ethically- following ethics and reasoning ethically; taking moral action- believing in evidence and taking moral decisions.

So, there were a total of 40 dimensions combining with each formed item. Like Value Perception scale, there are 4 options in each item from higher to lower. There are four options namely **a**, **b**, **c**, and **d** started from higher level to lower. Here option- **a**' is considered to be high whereas option- **d**' is lower level. Options have been randomly arranged after validation. Scoring of items was from 4 to 1, like this; **a- 4** marks, **b- 3** marks, **c- 2** marks, **d-1** mark. Sometime third person has been used in the situation because direct question may affect the student, and they cannot say truth about it. Options were randomly arranged after validation.

**Table 3.4: Items Distributions for each dimension of The Thinking Types for Thinking Scale**

<b>Critical Thinking</b>	Analysing	Inferring	Observation	Decision making	Problem-solving
Number of Items 10	2	2	2	2	2
Total Scores 40	8	8	8	8	8
<b>Creative Thinking</b>	Fluency	Flexibility	Elaboration	Originality	Integration
Number of Items 10	2	2	2	2	2
Total Score 40	8	8	8	8	8
<b>Reflective Thinking</b>	Systematic	Judgmental	Logical	Self-assessment	Use of insight

Number of Items 10	2	2	2	2	2
Total Score 40	8	8	8	8	8
<b>Moral Thinking</b>	Acquiring & Applying rule/standard	Following guidelines	Knowing Right and Wrong	Ethical Reasonings	Taking moral action/ Decision
Number of Items 10	2	2	2	2	2
Total Score 40	8	8	8	8	8

So, there were a total of 40 number of items which divided the scale into four sections, 10 items in each section. As there were four options in each item, the highest score per item was 4. The highest score for each section was 40 marks separately while the overall score was 160 marks.

### 3.6.5 REACTION SCALE

To study the effectiveness of the Story Model through which Stories delivered to students, a Likert type five-point reaction scale has been developed by the researcher to know the reaction of the students towards story model through stories sessions. In the reaction scale five options were there as Strongly agree, Agree, Neutral, Disagree and Strongly disagree, where students had to make tick mark in the appropriate box ranging from strongly agree to strongly disagree. Based on the study conducted, many relatable statements have been formed. There was a total of 25 statements related to five different criteria. These five criteria consisted of five statements under it.

The reaction scale consisted of five different criteria related to story sessions are following.

- Awareness of students about values and thinking through story sessions.
- Regarding interest and participation in story sessions.
- About new things they have learned through story sessions.
- Knowledge and understanding of students about the story sessions.
- Applicability of knowledge gained through story sessions.

By the end of the experiment, the developed validated reaction scale administered on experimental group to get an idea about the effectiveness of Story Model which have been given to them throughout the whole academic session.

### **3.6.6 DIARY OF ANECDOTE**

A diary of anecdote has been maintained by the researcher throughout the session. The whole one academic session allowed the researcher to observe students' behaviour properly every day. That is why a diary is maintained by the researcher in order to note down all the activities performed by students after every session. Their changeable behaviours, which are noticed by researcher noted down in the diary as an anecdote. Small incidents which are affected by the story sessions shared by students or noticed by the researcher have been mentioned in the Anecdote. The details of it have been described in the analysis section.

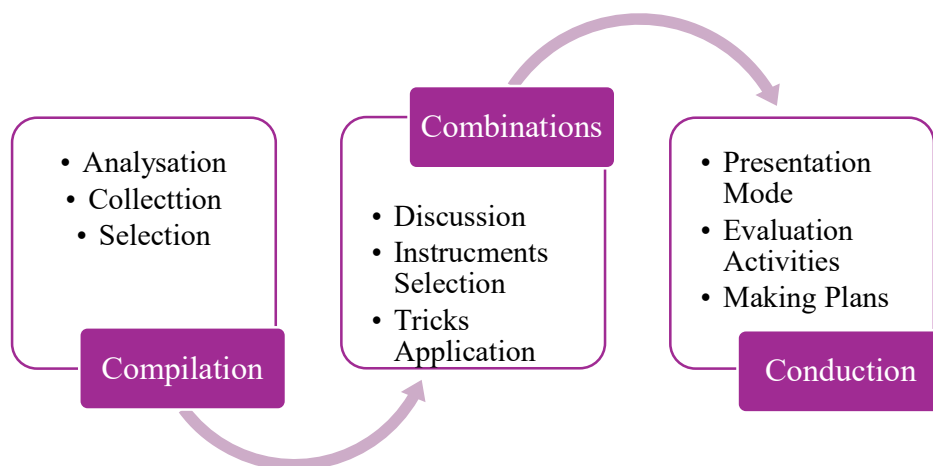
The special activities of the students of experimental group were mentioned in that diary by the researcher collecting the information from the class teacher and the subject teachers related to the reflection and performance of students with respect to the considered values and thinking. The researcher also watched the students of the experimental group at different spaces and time to collect anecdotes and special activities and had maintained those in the diary.

### **3.7.0 DEVELOPMENT OF THE STORY MODEL**

How both values and thinking can be enhanced through stories among students, for this a structure or a framework is needed. That is why an instructional model developed for this purpose. A model of teaching is a description of a learning environment, including our behaviour as teachers when that model is used (Joyce et al, 2015). Models have psychological and philosophical orientation with coherent theoretical basis. Models need to be made with refined experience, experts views and research. Models are the structure of anything that is helpful as a blueprint to conduct a work successfully. Here, in order to enhance both values and thinking together through stories, the need of a proper model felt by the researcher to carry out the research smoothly. This story model is helpful in the way, how to present the story smoothly with values and thinking enhancement techniques.

The current Story model developed by the researcher is inspired by teaching models of Concept Attainment, Inquiry- Based Learning, Role playing Model and Inductive Model etc. This model has been developed by the researcher here, where popular theories of Kohlberg (1964), Piaget

(1958), Rath et al (1966), and Lipman (2003) have been followed. This model contained all information about how to carry out the idea of Values and Thinking enhancement through Stories. Like other teaching models, Focus, Syntax, Social System and Support System have been described there. The main part or the Syntax of model contained three important phases those are Compilation, Combination and Conduction.



**Figure 3.1: Syntax of Model**

The first phase of the story model is compilation of stories from different sources. This includes analysing subjects, class, values and thinking to be inculcated. collection and finally selection of stories. The suggestions of experts need to be considered while compiling stories. The second that is Combination, it means the combination of different techniques. It is the phase of preparation of the story sessions with the applications some techniques. This phase includes early discussion for preparing the students for stories, selecting instruments to be used in the story and different tricks that need to be included inside a story. The last phase of the story structure is the conduction of the story session. It is the phase of story presentation in the classroom. Here the included points are deciding Mode of presentation of stories (Performing, Showing or simple telling), selecting suitable evaluation activities for it, and finally preparation of lesson plan for story presentation.

This story model to be instructional for values enhancement and thinking enhancement, it needs to be followed three important steps that is compilation, combination and conduction, these can be systematically explained here.

### 3.7.1 PHASE 1. COMPILATION OF STORIES

The compilation of stories has been prepared by the researcher by considering students' interest, age, and the scope to integrate the component of at least one value and a type of thinking as well. For this purpose, different workshops have been attended by the researcher related to storytelling. Here, not necessarily, but researcher also attempted to make stories related to any of the contents of subjects of Upper Primary Class syllabus.

1. **Analysation-** On the first phase of model, the researcher had to go through textbook analysis of all subjects (Odia, English, Mathematics, Science and Social Science) of standard VI. By analysing the textbooks, considering theories of Educationist, also NCERT recommendation of 1975 and NEP 2020;15 Personal, Social and Universal values have been identified those are frequently emphasized in different subjects of Upper Primary stage. Based on these selected values, stories were searched accordingly. The thinking types can be related to the stories, were based on the values it contained with. After analysing subjects, students' age and level of understanding, Different theories (Cognitive Development, Values Clarifications and Moral development) also studies have been followed to decide thinking to be inculcated among students through stories. The decided types of thinking were Critical, Creative, Reflective and Mora.
2. **Collection-** The researcher had collected approximately fifty stories (including both fiction and non-fiction) to enhance values and thinking among elementary school students. From famous Panchatantra, Fables, and Comics available on YouTube and Facebook pages are also helpful and related to contemporary society. Also, some social media influencers and motivational speakers like RJ Kartik, RJ Viny, Sandeep Maheswari, Ujjawal Patni, Sonu Sharma and Sneh Desai, who are currently contributing to the field of storytelling, that has been taken into consideration for this research.
3. **Selection-** Later, thirty-two stories have been selected by the researcher for final story sessions. Stories are also sometimes tried linked with the content of various subjects of standard 6<sup>th</sup> and 7<sup>th</sup> students by the researcher. The researcher had made an attempt to derive and include some stories that are useful for the students of 11-12 years age group students in this regard. In added to this, the advice, ideas and works of certified storytellers from India such as Deepa Kiran and Priya Balasubramanian, have been utilised by the researcher in this study. Few stories collected from various sources

available in Odia language. Stories collected from other languages translated into Odia language with the help of experts.

So, this phase includes three steps- 1. Analysis of students' academic subjects, analysis of policies and theories for inculcating values and thinking. 2. Collection of various stories as suited to the age and interest level of students. Incorporation of suggestions and recommendations from experts. 3. Selection of stories as per the need of time and place the types of values and types of thinking need to be considered while selecting the stories

### 3.7.2 PHASE 2. COMBINATIONS OF TECHNIQUES WITH STORIES

The important messages of stories can be facilitated through classroom discussion and some other tricks and techniques. Different techniques with proper plan need to be applied by the teacher for enhancing values and thinking through the stories. There are various techniques which can be combined with a story. This phase may include three important techniques that must be followed in every story session. Preparing the students for Story with some discussion, using different instruments inside the story and tricks to be followed inside story.

1. **Discussion**– Preparation of students is must before presenting story to them. For this a general discussion can be held. In all styles of story presentation, the teacher should not forget to make curious to students. Before presenting the story in a session, make the students curious in various ways. Then the teacher can allow a discussion among students with the teacher, and then the teacher can present the story to the students.
2. **Using Instruments**- In order to make the story realistic and to make it reach to the students' heart and mind, some instruments or instructional material for story presentation. Different types of instruments can also be used by the teacher as suits to a particular story, to make presentation interesting. The instruments like: Tambourine, Whistle, Stick, Pictures, Puppet, Face Mask, Projector, other objects (Ballon, Chair-table, colourful chalk etc.)
3. **Applying Tricks** - In order to enhance the thinking capacity of students, tricks were applied in between of story presentation. Tricks are helpful to make the class attentive to the story session. Different tricks can be used by the teacher in the middle of the story presentation. The tricks like questioning, guessing, assuming, observing, gaps to imagine the situation, providing example, discussion, thinking from different angles, relating with students' real life, acting a selected behavioral character from the story,

giving facial expressions, could be used by the teacher on students as per the need of the stories. These can be used by the teacher as per the demand of each story.

The story must be conveyed to the students by combining different techniques with it. As a result, students will understand about the lesson learnt from the story, the values it has embedded with, and they will develop new ideas.

### 3.7.3 PHASE 3. CONDUCTION OF STORY SESSIONS

At the last phase, organization and conducting story sessions were done. Selecting a school and selecting a particular class or group inside the school was required. Each of the sessions contains a particular type of values and thinking inside it. For each subtypes/ component of values at least two stories dedicated, same applies with the components of thinking also. For example, 'Honesty', which is the component of Personal value, there are at least two stories compiled for the purpose of inculcation values of 'Honesty' among students. Similarly, at least two stories needed related to 'analysis' a component of critical thinking. Anyways, there are three steps for this phase that have been adhered to conducting the story sessions. To decide the mode of presentation, to select an evaluation activity for values enhancement and for thinking enhancement and at last, to prepare lessons accordingly.

1. **Mode of presentation-** The mode of presentation of stories also decides inside each lesson plan like telling a story, showing a story with the help of a projector, performing a story with the help of drama or a combination of more than one mode. The researcher has prepared herself for delivering the stories in an appropriate manner, learning the tips from renowned story tellers as the researcher has delivered the stories herself. All the lesson plans both in Odia and English language have been provided in the appendices.
2. **Evaluation Activities-** Students' participation are always initiated here. As like at the beginning of the stories there must be general discussion through some questioning techniques, as described in the model. At the end after the presentation of the story, the lesson learnt from the story, or the moral of the story contains with it have to be discussed always. There are different evaluation activities that need to be attached to the Story Session which are related to the story also the values and thinking it contained with.

The activities for values are like Poem/Quote making, describing good qualities of yourself, friends, family members, making routine of self-activity, sharing own experiences, doing a good work a day and sharing it in the classroom, etc.

Thinking Activities are like: - Matching and comparing the items, course of action, making decisions by being in place of a story-character, drawing pictures, guessing games, finding out possible solutions for problems inside the story, etc.

- 3. Preparation of Plans-** For conducting the story sessions, help with a lesson plan can be taken. So, after developing a model for the study, the researcher made lesson plans for the finalized thirty-two number of stories. These Plans were developed based on Herbartian but were in a Cognitive lesson plan style. All the lessons are made on the basis of model prepared by the researcher. Different topics of subjects of standard VI & VII have been tries integrated with the developed stories session but informally. In order to make research effective one lesson plan for one story session have been made. These plans prepared in English but later translated to Odia language with the help of Odia language experts as the study was meant for Odia medium students in Odisha. The prepared plans are later validated by the teachers from selected schools also. By considering this structured model the plans for the story sessions have been made. The format of cognitive lesson plan can be presented here through figure and a brief description about the steps followed in a session.



**Figure 3.2: Format of Cognitive Lesson Plan**

In the cognitive lesson plan, first the story name and number have mentioned. After that, general objectives were framed for the whole academic. Every plan contained at least one value and at least one thinking type in it, which was the specific objective of that particular story session. Then a proper mode of presentation is decided- either showing, performing or simple telling. After this the components of values and thinking that focused on a session, have given. When it is time for the presentation of the story, the students' attention is drawn with the help of any connected things like songs, quotes, poems, games, pictures, simple questions or discussion. The story started with this and in-between of presentation, through different techniques students have made active. At the end of each story session, the discussion about the morals of the story or the lesson learnt from the story was the must. Instruments needed to be used in a session have mentioned also mentioned. The behaviour of teachers and students separately explained. Then, the important part of the session comes that is evaluation activities both for values and thinking enhancement separately which was again related to the presented story. At last, after leaving the classroom, the researcher made some important points through the help of an anecdotal Diary. The important points were related to the noticed behaviour of students.

### **3.8.0 IMPLEMENTATION OF STORY MODEL**

Here the implementation of the story model is done through planned story session. The session for stories had to be prepared by the researcher based on the developed model. The necessary permissions and sitting arrangement and other facilities had been checked. For dedicating a special period for story session, the necessary request has been made. Here after taking permission from the sample schools, the researcher has presented the planned stories to the students of experimental group for a period of one academic year. From the Month of April 2023, the researcher started giving intervention to the students of experimental groups, that ended March of 2024. In order to make students more comfortable and to know the students more accurately researcher also given permission to take Math and English classes of 6<sup>th</sup> and 7<sup>th</sup> standard respectively. The stories have been delivered to the students in the medium of local Odia language only.

The planned story sessions delivered informally without their strict linkage to academic activities. But to make the session interesting and relatable the stories of some session were not strictly but somehow were linked with some topics of History, and Language subjects like- Odia and English. The History subject's content related with stories were great men's,

Geographical location of India, Ancient Bronze age, Jainism and Buddhism, Persian and Greek Invasions. With the content of Odia Language subject, some stories were related like- Saving trees and Forest, Freedom struggles and about developing good manners. In English contents with whose stories were related were different seasons in a year, loyalty, cleanliness, self-confidence, Unity, non-violence, Friendship, feeling of togetherness, saving environment. Again, after the analysis each session and evaluation activities of lesson done separately with the help of diary. From the data mentioned in the diary, the interpretation can be derived as follows.

Two periods in a week have been allotted by the school in the timetable for this purpose. Those allotted periods of 40-45 minutes in a day were engaged by the researcher for delivering stories for the whole academic year of 2023-2024. Though the stories have been linked with some topics/ subjects, academic achievement in any subject has not been focused on the present study. While at the same time no planned activities for the enhancement of values and thinking from the side of the researcher have been made on the control group and they have been taught all the subjects in the regular teaching process. Some photographs of using different instruments for story presentation like Ballon, Puppet Toy, Picture, Tambourine during story sessions have been shown here below.



**Figure 3.3: Story Presentation of Different Sessions**

Organizing the session of stories from simple concept to harder in a systematic manner has been done. Stories were conducted according to the ongoing season of the month winter, summer or rainy. As suggested in the model, it was neither overdosed nor had less session in a week. That is why weekly 2-3 sessions were preferable. Each session's duration was 45 minutes maximum, considering students' knowledge and patience level. So, the researcher had tried to include all the previous mentioned techniques in a 45 minute of session.

### **3.9.0 DATA COLLECTION PROCEDURE**

The present study is a Pre-Post test Non-equivalent Group design of Experimental Method, that is why the data were collected at the beginning of the intervention and at the end of the intervention program. The data collection has been done in following few steps i. e.

1. Administration of Pre-test that is Intelligent Test
2. Test of Validity and Reliability/ Pilot Study
3. Intervention through Story Sessions
4. Maintaining diary of Anecdote during interventions
5. Administration of Post-test –
  - I. Values Knowledge Test,
  - II. Values Perception
  - III. Thinking Scale
6. Administration of Reaction Scale

Before the implementation of compiled stories or before conducting the Story session, as a pre-test 'Intelligence Test' has been administered by the researcher on the students of both groups, experimental and control. On the basis of intelligent test scores both the control and experimental group have been made equivalent. After constructing the desired tool, validation through experts has been done and for reliability test a try-out has been made by the researcher. Then stories were presented to the students with proper plan. After the presentations of planned stories sessions, the post-tests have been administered through Value Knowledge Test, Value Perception Scale and Thinking Scale on both the groups to measure the value knowledge, value perception and thinking. The reaction scale has been administered on the students of experimental group to measure their reactions towards prepared planned stories sessions and its transaction.

In order to cross check, the quantitative data, also, special activities of the students of experimental group have been maintained by the researcher through a diary of anecdotes. Qualitative data has been used as a support and supplement to quantitative data. Collected information from the class teacher and the subject teachers related to the reflection and performance of students with respect to the considered values and thinking have been included in the Diary. The researcher also kept an eye on the behavioural changes of students of the experimental group at different space and time to maintain those in the diary.

### **3.10.0 DATA ANALYSIS**

Both descriptive and inferential data analysis have been emphasized in this study. The collected data has been analysed by employing quantitative techniques like the median, quartile deviation (QD), and Standard error of Median (SEM). The standard error of median has been calculated by multiplying standard error of mean with the 1.2533 value. Thereafter, Mann Whitney U test, frequency, percentage analysis and intensity index have been used. The sample of the study selected conveniently also the size of it is small which is the reason behind the implementation of U- test for analysing the data. MS excel has been used for all data entry.

The data analysis of all implemented tests is done through the use of SPSS (Version 27) and Jamovi software (Version 2.5). Jamovi software was used to generate graphs and to calculate descriptive statistics and while SPSS used to calculate Mann Whitney U test, z-value, and sum of Ranks. Reaction scale has been analysed through Frequency, Percentage, and Intensity Index. In order to bring notice of students' behavioural changes during the experiment, the researcher also maintained a diary that has been qualitatively analysed by the researcher. It was to cross check quantitative data and to support it at the same time to the, the anecdotal diary mentioned that analysed qualitatively with respect to objective and with the help of some phrases and statements. The collected anecdotes and the recorded special activities have been analysed qualitatively.

As per the objectives of the study, the analysis techniques which have been used here, can be provided in a table here.

**Table 3.5: Analysis-techniques of different data**

Sr No.	Objectives Number	Test Names	Number of Items Analysis Method	Statistical Techniques Used
I	4	Values Knowledge Test	Quantitative	Median, QD, SEM and U-test
II	4	Values Perception Scale	Quantitative	Median, QD, SEM and U-test
III	5	Thinking Scale	Quantitative	Median, QD, SEM and U-test
IV	6	Reaction Scale	Quantitative	Frequency, Percentage, Intensity Index
V	4 & 5	Diary of Anecdote	Qualitative	Phrases, Statements and Descriptions

As shown in the above table, analysis of data has been done followed by its interpretation that has been provided in Chapter 4. There are two types of calculation made taking all independent variables separately. First, descriptive where Median and QD given importance and later inferential non-parametric statistic that is U-Test calculated.

### 3.11.0 CONCLUSION

The methodology part is especially important in any report writing. This is the main body of any research report writing. In order to have a systematic analysis, the methodology part is very helpful. This part gives an idea about what the procedure is and how the whole work is conducted. That is why methodology plays a key role in giving detailed descriptions about the whole study. This chapter consisted of detailed descriptions about method, design, variables, population, sample, tool, and phases of data collection the present study is having. Different data needed to go through different analysis that have been explained in this chapter. Tables, figures, and pictures have been provided here for a better explanation of tools and data analysis techniques. All of these contribute to better understanding in coming chapters. The next chapters deal with data analysis based on the pre-planned methodology of all the collected information both through numerical and written records.