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Promoting Thinking Ability of Upper Primary School Students through Storytelling

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Abstract

This study explores the role of storytelling as a pedagogical tool for promoting thinking abilities among upper primary school students. Traditional education systems have often focused heavily on rote learning and information retention, neglecting the crucial skill of thinking. This research advocates for a shift towards fostering critical, creative, reflective, and moral thinking through engaging and contextually relevant storytelling sessions. Using a quasi-experimental design, two groups of Class VI students from Odisha were selected—an experimental group that received story-based interventions and a control group that followed the standard curriculum. Data was collected using a researcher-developed Thinking Scale and analysed through statistical methods, including U-tests. Findings revealed significant improvements in reflective and moral thinking among the experimental group, while no significant differences were found in critical and creative thinking. Nevertheless, overall thinking scores favoured the experimental group, suggesting that storytelling can effectively enhance cognitive engagement and holistic development. The study supports integrating storytelling into classroom practices to cultivate higher-order thinking skills, align with 21st-century educational goals, and foster more meaningful learning experiences.

Keywords: *Promoting thinking, Thinking ability, School-education, Upper-primary school, Storytelling.*

Introduction

The importance of 'Thinking' in the school has felt from the past few decades only. The traditional thinking has put very high emphasis on critical thinking, argument, and logic, but these are only a part of thinking, and it is not sufficient (Lipman, 2003). That is why the present system of education needs to stress more on thinking development among students. There is a need of a special plan and policy in order to give stress to the 'thinking' area. The situation is not different in our schools. Our rote memory-centric examination system prevented the practice of thinking in our teaching-learning process. Even though it is discouraged to think in our schools. However, NCERT, 2005 stresses on critical and creative thinking. The NPE Draft (2019) stresses the holistic development of learners by the objective of that, in order to minimize the rote learning instead encouraging holistic development and 21st century skills, the entire school education curriculum will be reoriented to develop holistic learners and develop higher order skills of critical thinking, creativity, logical deduction, and so on. There are only a few programmes in their aim that have mentioned the thinking development of students in school (Lipman, 2003). The last decade of the twentieth century was expected to be

one of gathering of momentum by the critical thinking movement. However, this critical thinking promise has not been fulfilled among the majority of students at elementary school. No effort was made to connect the various dimensions of thinking into a whole, both conceptually and developmentally (Lipman, 2003).

And the awareness among educators that something has to be done to improve the quality of thinking in the classroom has prevailed until now. In the primary stage of education, children are very active, and students need freedom to question and explore their environment. At the end of primary or at the upper primary stage, when children reached, they started to think rationally. Here, students develop a feeling of confidence, sharing, rules and regulations, respect, responsibility, interpersonal skills of communication, creative thinking, and so on. So, it is the appropriate stage to provide them opportunity to develop their thinking power. They are curious. They love stories, games, rhythm, songs, colours, etc. This stage is the ideal time for laying foundation of a child's personality, development of thinking, and values. Story can be the best medium to develop the thinking of the students. Everybody loves to hear stories, and it is an inevitable part of childhood. Child enjoys and experience pleasure in stories. Stories could be helpful in the development of skills among children, especially thinking capacity.

Concept of Story

A story is that which transmits information, experience, attitude, or point of view. A story includes purpose, one or more characters, through a series of events, and by the end, it arrives at a target destination, fulfilling its reason for having been seen or told. A story is a narrative account of an event or a sequence of events. A narrative or story is about connections. It connects the actions of individuals with different interrelated events in a comprehensive way. Narrative illustrates the importance of events relating to one with another. It can be true or fictional. Even if a story is fiction, it always contains a fundamental truth. The story's message must be accurate. It needs to be genuine and constant. Simple facts are given emotion, people, and sensory details by a story. That's why a story draws our attention through its plot and captures us by delivering an important message.

Stories are all around us. Our lives are a collection of stories. Stories make engage to the listeners and help them to remember the lessons. It is an effective tool as it allows students to participate actively through the action of imagination, observation, and experience. This enhances students' learning competency and helps them to connect with their environment. The events inside a story can be fictional or non-fictional, including real or fictional incidents. The story may be of all times: past, present, and future. Stories have cultural significance as it has started from ancient ages and have been an important part of human life. Aside from being a

part of every single type of literature, stories are at the foundation of creativity and part of just about everything we do; stories can be shared in all different ways, from oral and written storytelling, to TV, film, and radio, to fine arts, stage performance, and music, and so on.

Concept of Thinking

The present educational system must focus on the thinking of children, and strengthening this thinking should be the chief business of the schools. The school could best prepare children for the world they would face when they grew up. Therefore, 'thinking' in education has been tried to propose. Of course, traditional education involved 'thinking', they acknowledged. But the quality of such 'thinking' was deficient. This was limited only to 'critical thinking' (Lipman, 2003). Benjamin Bloom and his colleagues in 1948 began an effort by recognizing that the brain operates across three domains: Cognitive, Affective, and Psychomotor. The cognitive domain is concerned with thinking.

Thinking, also known as cognition, is the mental activity that occurs in the brain of an individual in organizing understanding and communicating the information to others. Thinking is a cognitive ability, and image & language are closely connected with human thinking. The good poetry, a highly developed computer, or a robot, a beautiful painting, are all the products of thinking. Thinking is a process of internal representation of external events, belonging to the past, present, or future, and may even concern a thing or an event which is not being actually observed or experienced by the thinker. Thinking can be described as a pattern of behavior where we solve a particular, intentional problem by using internal representations (symbols, signs, etc.) of objects and events (Verma & Anurima, 2019). Thinking can shift instantaneously over a span of time and space. Thinking is the mental exploration. The sets induced in our process of thinking are quite often the result of our interests, directions, purposes and goals, or accomplishments. Tools or instruments of thinking are Image, Concepts, Symbols & signs, Language, Muscle activities, Brain function, Problem-solving, Reasoning, Logic. These were some tools, instruments, or elements of the thinking process. The process of thinking takes place when we involve any of these elements (Mangal, 2014). Thinking takes place when we form concepts, engage in problem solving, to reason, and make decisions.

Types of thinking

Promoting thinking among students prepares them to engage thoughtfully with real-life challenges and become responsible, reflective individuals. It makes a child self-reliant, an independent inquirer and discoverer, and a useful and progressive citizen as needed by a rational and democratic society. Thinking supports independent judgment, encourages rational

decision-making, and is essential for personal and academic growth. Thinking is a mental process, usually classified into the following categories:

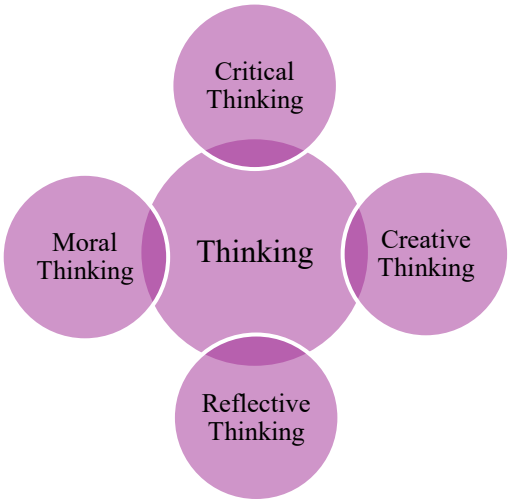

Figure 1: Types of Thinking

1. *Critical thinking:* Critical thinking is a higher-order mental process that involves using advanced cognitive skills to understand, interpret, analyze, synthesize, conceptualisation, and evaluate information. It requires individuals to draw inferences, make judgments, and explain their reasoning in a logical and unbiased manner. Rather than relying on guesswork or assumptions, critical thinking promotes a disciplined and purposeful approach to problem-solving and rational decision making (Bansal, nd).
2. *Creative thinking:* This type of thinking, as the name suggests, is associated with one's ability to create or construct something new, to discover or produce a new idea or object, novel, or unusual. It is not restricted by any pre-established rules. It describes and interprets the nature of things, events, and situations by establishing relationships and associations. Creative thinking in all its dimensions involves divergent thinking instead of the routine and fixed type of convergent thinking.
3. *Reflective thinking:* This is a somewhat higher form of thinking. It aims at solving complex rather than simple problems. Mental activity in reflective thinking does not involve the mechanical trial-and-error type of efforts. There is an insightful cognitive approach in reflective thinking. It takes all the relevant facts arranged in a logical order into account in order to arrive at a solution to the problem at hand.
4. *Moral Thinking:* Thinking by taking ethical principles into consideration can be called moral thinking. Having moral judgment, moral awareness, following rules and standards, and making moral decisions, makes a person aware of right conduct. This moral

development takes place throughout a human's life with some progress and growth. Knowing right and wrong and taking moral action is combined with moral thought.

With critical thinking, the promotion of creative, reflective, and moral thinking is possible through different methods and techniques by linking it to different content. The content or lesson taught to the students is linked to any story, then the content or lesson will be interesting for them. As the topic demands, the story should fit its dimensions. Stories can make lesson material more approachable and relatable.

Story and Thinking

The school could best prepare children for the world they would face when they grew up. Thinking occurs mostly in our heads, is invisible to others, one indication of becoming an 'effective' thinker is to be able to move on and make thinking visible through speaking or writing. So, if students have not yet learned to express their thinking, teachers need to help them to do so (Richhart & Perkins, 2008). Locke says, the skills of thinking do not occur automatically; they do not develop by themselves. Therefore, the present educational system must focus on the thinking of children, and strengthening this thinking should be the chief purpose of the schools. Methods like storytelling can be helpful in promoting thinking, as it has shown in many research results. A story is a connected series of events conveyed by different forms of communication- written or spoken words, still and moving images, animation, body language, performance, music, etc. Here, students explore human relations problems by enacting problem situations and then discussing the enactments. Together, students can explore feelings, attitudes, values, and problem-solving strategies. A story helps in making lessons lively and interesting to the pupils. It is helpful in their holistic personality development. It makes students active and attentive in the classroom. It is helpful in the thinking and imagination of students.

It boosts the creativity of children and imagination power (Dhingra, 2011; Izzah, 2015; and George, 2016). Stories also develop the different types of intelligence, like EQ and SQ (Izzah, 2015). It increases verbal skills and vocabulary power (Nassim, 2018, and Dhingra, 2011). It makes academic learning easier and increases understanding of a subject. Stories play a significant role in moral development and improve awareness of virtues (NCERT framework, 2005; Alterio & McDurry, 2004; and Dash, 2015). It is helpful in sharpening memory. It creates interest in learning and makes students attentive to the subject matter (Muhhamed, 2016). Bruner (1986) stressed the importance of stories in understanding self and bringing cognition, emotion, and action together to give experience of 'cultural relevance'. Bishop and Glynn (1999) maintained that different stories give different versions and approaches to the truth,

making it more relevant to consider individual differences among learners. Stories enable students to enter into the worlds of real people involved in everyday situations. So, it is still relevant today as it has been proved by psychologists and researchers who say stories help children to understand the difference between knowing and doing (Alterio & McDurry, 2004). There are different developmental stages of thinking ability of children, where the age 11 to 12 and afterwards, the formal operational stage is there (Piaget, 1948). It is the last stage of cognitive development. The intellectual development and functioning take a very sophisticated shape at this stage as the child learns to deal with abstraction by logical thinking.

Objectives of The Study

1. To compile stories to promote the thinking ability of students at the upper primary school.
2. To implement the compiled stories with the help of a planned story session for promoting of thinking ability of students at the upper primary school.
3. To find out the effectiveness of compiled stories in terms of promoting the thinking ability of students at upper primary school.

Hypotheses of The Study

Based on the objectives of the study and selected types of thinking, the following null hypotheses has been formulated and has been tested at the 0.05 level of significance.

H01. There is no significant difference between the mean thinking scores of the experimental group and the control group of upper-primary school students in terms of Critical Thinking.

H02. There is no significant difference between the mean thinking scores of the experimental group and the control group of upper-primary school students in terms of Creative Thinking.

H03. There is no significant difference between the mean thinking scores of the experimental group and the control group of upper-primary school students in terms of Reflective Thinking.

H04. There is no significant difference between the mean thinking scores of the experimental group and the control group of upper-primary school students in terms of Moral Thinking.

H05. There is no significant difference between the mean total thinking scores of the experimental group and the control group of elementary school students.

Methodology

The method of the present study was experimental. Here, the quasi-experimental research design has been used. This is a non-equivalent design because random assignment to

experimental and control treatments has not been applied. Under this pre-test and post-test non-equivalent groups design was selected as it was convenient for this study. For the present study, the independent variable was the 'Compiled Stories', whereas the dependent variable was the 'Thinking' to be promoted.

Population and Sample

All the elementary school students of Odisha state studying in the vernacular medium Upper Primary schools affiliated with the Board of Secondary Education in Odisha comprised the population of the current study.

A convenient sampling technique from the non-probability sampling types has been used to draw the sample for this study. One school was selected as a control group and one as an experimental group. Two Upper Primary schools of the Bargarh district of Odisha have been selected for the purpose of feasibility of experimentation. Here, the researcher targeted sample 6^{th} class students are the sample for the present study age is 11-12 years. After making equivalent to the two selected groups there were 20 students in each of the groups. So, there are a total of 40 students who constitute the sample of the present study.

Tools for Data Collection

First, for the purpose of group matching, the researcher has applied Raven's Progressive Matrices to experimental and control groups. According to the objectives of the study, the tools used for data collection were: 1. *Intelligent Test:* The standard progressive matrices test prepared by J. C. Raven in 1956 was used as a pre-test. 2. *Thinking Scale.* In order to measure the thinking ability of students, the researcher has developed a thinking scale with 45 items, which includes four sections considering 4 types of thinking- Critical, Creative, Reflective, and Moral. The scale was validated by experts, and later reliability was also checked through the Cronbach Alpha test, with a result was 0.774.

Development and Implementation of Planned Story Sessions

The storytelling intervention has started to be given to the experimental group for the whole academic year of 2023-2024. Story sessions are conducted at least two days every week, preferably Friday and Saturday, up to the end of their academic session. On the other hand, after conducting a pre-test of the control group, they were not introduced to any of the story sessions, which means they were not given treatment by the researcher.

After developing a model for the present study, the researcher made lesson plans for finalizing 32 number of stories. These Plans were developed based on Herbartian principles, but were in a Cognitive lesson plan style. Different topics of subjects of standard VI have been tried to be integrated with the developed stories session, but informally. In order to make research

effective, a lesson plan for one story session has been made. These plans were prepared in English but later translated into the Odia language with the help of Odia language experts, as the study was meant for Odia medium students in Odisha.

The plan has been made considering these important points.

1. General Objectives
2. Specific Objectives
3. Mode of Presentation
4. Thinking type to be inculcated
5. Student's introduction to Story
6. Story Presentation
7. Story session Discussion
8. Instrument used in the Story
9. Teacher's Behaviour
10. Students' behaviour
11. Evaluation Activities

After taking permission from the sample schools, the researcher has implemented the compiled stories on the experimental group for a period of one academic year. Then, from the Month of April 2023, the researcher started giving intervention to the students of the experimental groups. The planned story sessions were delivered informally without their strict linkage to academic activities. Weekly 2 periods 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 the stories. At the end of the implementations of all the planned stories sessions, the post-tests have been administered upon both control and experimental group through Thinking scale. The data related to this have been analysed and interpreted, that described here.

Analysis and Interpretation of Data

All the data which are collected through the implementation of test have been quantitatively analysed. Statistical tests like Mean, SD and at the last U test have been applied. The use of popular software like SPSS has been used for this purpose. Data analysis done by the researcher Quantitative techniques. Both descriptive and inferential data analysis have been emphasized in this study. There were four types of thinking selected for this study that is Critical, Creative, Reflective, and Moral thinking. For this scale, there were five different hypotheses that had been formulated, for which statistical tests have been applied.

The following eight tables dedicated to Thinking Scale analysis. Here ten separate tables dedicated to each type of thinking as hypothesis formulated separately for them. Here, table number 1 and 2 is statistical score of 'Critical Thinking' of both experimental and control group. Table number 3 and 4 is about statistical score of 'Creative Thinking' of both experimental and control group. Table number 5 and 6 is about 'Reflective Thinking'. Table 7 and 8 is about total scores of thinking scale and its calculation 'Moral Thinking'. And at last, overall scores of all

types of thinking of both experimental and control group provided in the table number 9 and 10.

Table 1: Distribution of Critical Thinking Score

Groups	N	Mean	Median	SD	SE
Experimental	20	29.10	29.0	4.52	1.012
Control	20	27.30	27.5	2.95	0.660

This above table provided data related to Critical thinking under the Thinking Scale of both experimental and control groups. Mean of the experimental group is 29.10 whereas mean of control group is 27.30. The median of experimental group and control group are 29.0 and 27.5, respectively. The SD and SE of experimental groups are 4.52 and 1.012 respectively, likewise the SD and SE of control group are 2.95 and 0.660, respectively. The difference between the means of both groups have been identified that is why it needs to be checked this significant whether difference or by chance and to test null hypothesis, the U-test has been applied, which related data given in the next table.

Table 2: Distribution of U-test results related to Critical Thinking

Groups	N	Sum of Ranks	U-Value	z- Value	Probability (p)
Experimental	20	461	149.00	-1.388	0.169
Control	20	359			

The above table provides information about U-test results. The sum of ranks of experimental groups is higher, which is 461, than the control group, which is 359. The calculated U-value is 149.00, and the z-value score is 1.388. After this, the p-value checked from the table is 0.169, which is greater than the decided value that is 0.05. That is why the U-value was found to be not significant. The null hypothesis formulated for this, “There is no significant difference between the mean gain thinking scores of experimental group and control group elementary school students in terms of Critical Thinking,” has been accepted here at the 0.05 level of significance. A visual representation of the score secured by both groups is provided below here. Here, it can be interpreted that the difference between the two groups is not there because of the story sessions. But there is no negative impact of the story session as because there is no difference between two groups. The previous table No. 4.17 showed the difference between mean scores of two groups, where scores of experimental group students were high, which means the story telling intervention was not much but little effective to experimental group while considering critical thinking scores.

Table 3: Distribution of Creative Thinking Score

Groups	N	Mean	Median	SD	SE
Experimental	20	29.40	30.0	3.53	0.789
Control	20	29.10	29.0	4.03	0.901

The table provided here details information about descriptive calculations of the Mean, Median, SD, and SE relating to Creative Thinking inside the Thinking scale. The SD and SE data of the experimental group are 3.53 and 0.789, respectively. The SD and SE data of the control group is 4.03 and 0.901. The medians of the experimental group and the control group are 30 and 29, respectively. The means of both the experimental group and the control group are 29.40 and 29.10, respectively. There is a small difference between the two groups that have been identified here. The non-parametric calculation can give clearer idea about the differences. Whether the difference between the mean gain score of Creative Thinking of both groups is significant or by chance, and to test the null hypothesis U-test for this purpose has been applied. To check if the mean difference between the two groups is significant, the data related to this have been given below.

Table 4: Distribution of U-test results related to Creative Thinking

Groups	N	Sum of Ranks	U-Value	z- Value	Probability (p)
Experimental	20	414.50	195.50	-0.122	0.913
Control	20	405.50			

After applying the U-test, the above table shows data related to the U-test result about the Creative Thinking Score under the Thinking scale of both groups. There is very little difference between the sum of ranks of both groups, as the Experimental group has 414.50 and the control group has 405.50. The result of the U-test value found is 195.50. Here, the z value is 0.122. The probability from the test result of the z-value ascertained from the table of probabilities(p) is 0.913. which is not less than the decided significance level of 0.05. It means the test is not significant at the 0.05 level. Thus, the null hypothesis formulated for this "There is no significant difference between the mean gain thinking scores of experimental group and control group elementary school students in terms of Creative Thinking" has been accepted. It means the story sessions were not so much impactful, but it was helpful for experimental group students, which is why they scored high and performed well on Creative thinking under the Thinking Scale. To understand the differences clearly, here is a graph of students' performances in both groups provided below.

Table 5: Distribution of Reflective Thinking Score

Groups	N	Mean	Median	SD	SE
Experimental	20	29.50	29.5	3.99	0.893
Control	20	25.30	27.0	3.61	0.807

The above table provided data related to Reflective thinking under the Thinking Scale of both experimental and control groups. The mean of the experimental group is 29.50, whereas the mean of the control group is 25.30. The medians of the experimental group and control group are 29.5 and 27.0, respectively. The SD and SE of experimental groups are 3.99 and 0.893, respectively; likewise, the SD and SE of control groups are 3.61 and 0.807, respectively. The difference between the means of both groups has been identified, which is why it needs to be checked this significant whether this difference or by chance or to test the null hypothesis. So, for this, the U-test has been applied, and its related data has been given in the following table.

Table 6: Distribution of U-test results related to Reflective Thinking

Groups	N	Sum of Ranks	U-Value	z- Value	Probability (p)
Experimental	20	528.50	81.50	-3.218	0.001
Control	20	291.50			

The above table is about the data of the U-test results. This includes the sum of the ranks of both groups. The sum of ranks of the experimental group is 528.50, whereas the sum of ranks of the control group is 291.5. Its U-test value result showed 81.50. After this, the z-value result came out, which is 3.218, which is greater than the decided table value that is 1.96. Again, from its p-value shown 0.001, it is less than the decided value of 0.05. That is why the null hypothesis formulated to apply the U-test on it, “There is no significant difference between the mean gain thinking scores of experimental group and control group elementary school students in terms of Reflective Thinking,” has been rejected here at the 0.05 significance level. It means that the story sessions were helpful to experimental group students, while considering the reflective thinking category, and that is why there is a significant difference found in the Reflective Thinking Score between the two groups because of the storytelling intervention.

Table 7: Distribution of Moral Thinking Score

Groups	N	Mean	Median	SD	SE
Experimental	20	28.40	29.0	3.23	0.723
Control	20	26.10	26.0	2.76	0.618

Table 7 gives information about the Mean, Median, SD, and SE of Scores of experimental and control groups. Means of both groups are 28.40 and 26.10 for the experimental and control

groups, respectively. The Median of the experimental and control groups is 29.0 and 26.0, respectively. The SD of the experimental group is 3.23, and the SD of the control group is 2.76. After this, the SE of the experimental group and control group are 0.723 and 0.618, respectively. Here, the mean difference between the two groups is 2.3. Whether the difference is significant or by chance, and to test the null hypothesis it needed to be tested through a statistical formula that is U-test. The following table is dedicated to the data related to the U-test results.

Table 8: Distribution of U-test results related to Moral Thinking

Groups	N	Sum of Ranks	U-Value	z- Value	Probability (p)
Experimental	20	483.50	126.50	-2.006	0.046
Control	20	336.50			

This table includes the data related to the U-test which involves sum of ranks, u test result, z-value, and p-value also. The sum of ranks of Experimental group is 483.50 and Control group is 336.50. The calculated U-value is 126.50. The z-value which is 2.006 indicated that it is greater than the table value 0.05 which is 1.96. Again, the probability of test found is 0.046, which is just less than the decided value that is 0.05. That is why the null hypothesis formulated for this "There is no significant difference between the mean gain thinking scores of experimental group and control group elementary school students in terms of Moral Thinking" is supposed to be rejected at 0.05 level. It means that there is a significant difference between Moral Thinking mean scores of experimental group and control groups at 0.05 level due to story sessions, where the students of experimental group performed well.

Table 9: Distribution of Total Thinking score

Groups	N	Mean	Median	SD	SE
Experimental	20	116	117	9.31	2.08
Control	20	108	109	8.11	1.81

Table here provided detailed information about descriptive calculation of the Mean, Median, SD and SE relating to all the sections inside Thinking Scale. The SD and SE data of experimental group are 9.31 and 2.08, respectively. The SD and SE data of control groups are 8.11 and 1.81. The Median of experimental group is 117, and control group is 109. The means of both experimental group and control group are 116 and 108, respectively. The difference between the means of both groups has been identified here. There is the difference of 8 points, so the non-parametric calculation needed here to check whether the difference between mean gain Total Score of Thinking Scale of both groups is significant or by chance and to test the null hypothesis U-test for this purpose has been applied. The mean difference between two

groups is significant or not, the data related to the statistical applications of these have been provided below.

Table 10: Distribution of U-test results related to Total Thinking Score

Groups	N	Sum of Ranks	U-Value	z- Value	Probability (p)
Experimental	20	515.0	95.00	-2.844	0.005
Control	20	305.0			

The data had been tested applying U-test, then the above table provided with data of U-test result about Total Thinking Score under the Thinking Scale of both the groups. There is a big difference between the sum of ranks of both groups, as Experimental group having 515 and control group having 305. The result of the U-test value is 95.00. Here, the probability(p) value after test result of z-value ascertain is 0.005. This is less than the decided value that is 0.05 value. Also, z value which is 2.846 is greater than significance level of 0.05 which Table value is 1.96. It means the test is significant at 0.05 level. Thus, the null hypothesis formulated for this "There is no significant difference between the mean gain total thinking scores of experimental group and control group elementary school students," has been rejected. It means the story sessions were helpful for experimental group students, that is why they scored high and performed well on overall sections of Thinking Scale. To understand the differences clearly, here is a graph of students' performances in both the groups provided below.

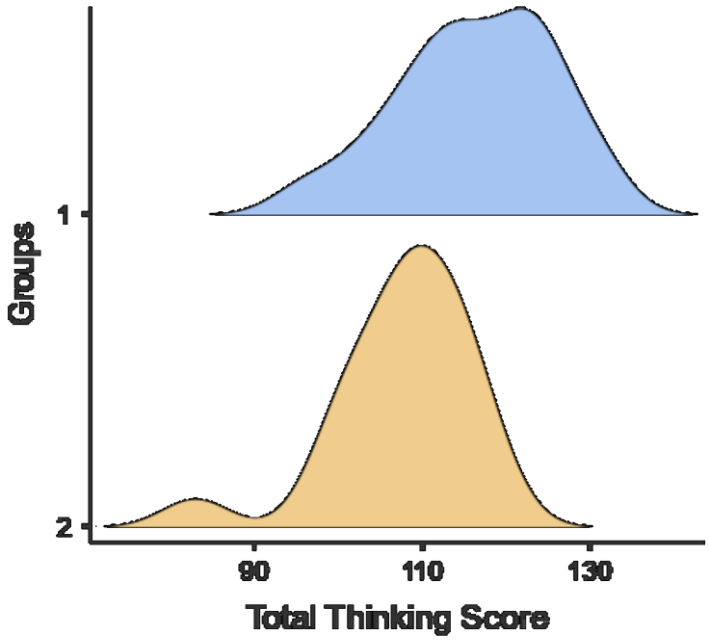

Figure 2: Total Thinking score of Experimental Group (1) and Control Group (2)

The above density graph has been made based on the total scores of students in the Thinking Scale. All types of Thinking that are included in this study; Critical, Creative, Reflective and

Moral Thinking under the Thinking Scale has been calculated together, which result is already elaborated in previous tables that is 4.25 and 4.26. So, in this graph it can be assumed that experimental group students' graph which is blue coloured and named as group 1, its performance is much better than the control group students which is yellow in colour and named as group no. 2.

Results and Discussion

The above analysis and discussion about thinking enhancement and the test results of thinking scale indicated that though the differences between experimental and control groups did not recognize in the critical and creative thinking (from table No. 2. and 4) but the overall score differences noticed in table no. 10, it was total scores of thinking scale. The main differences are also observed in table no. 6 and 8 that were dedicated to the Reflective and Moral type of thinking. The differences found are due to the storytelling and not by chance as calculated data showed. Students have enhanced their thinking ability. The storytelling intervention was effective in terms of overall thinking scores to the experimental group students.

Here it can be said that, through the structured implementation of storytelling over an academic year, it was observed that students in the experimental group demonstrated significantly better performance in reflective and moral thinking compared to those in the control group. Although the differences in critical and creative thinking were not statistically significant, the overall enhancement in thinking ability suggests that storytelling has a positive influence on cognitive development. The research findings of Hunter & Eder (2010), Andrews & Martin (1995), Jones & Sanguedolce (2013) was similar to the present research, as they had to say that story can promote moral thinking and higher order thinking skill. These findings have implications for curriculum reform, teacher training, and pedagogical strategies focused on developing thoughtful, responsible, and imaginative learners. Students should encourage to possess the 'Ability to think', this could be the important human resource. From result it has revealed that storytelling could be a way to enhance students' thinking ability.

Conclusion

Now a days, education needs to be integrated so that it can focus on development of child's language competence: issues related to articulation and literacy, and the ability to use language to create, to think and to communicate with others. The present study highlights the potential of storytelling as an effective pedagogical tool to promote thinking abilities among upper primary school students. The research confirms that stories not only engage students emotionally and intellectually but also provide opportunities for deeper understanding, moral reasoning, and imaginative exploration. Integrating stories into the teaching-learning process

can make education more meaningful, relatable, and aligned with the holistic goals of the National Education Policy. This study calls for a rethinking of classroom strategies and curriculum design to move beyond rote memorization and foster a learning environment that cultivates independent thinking, creativity, and values. Teachers should be encouraged and trained to use storytelling as a dynamic and impactful medium to nurture thoughtful and well-rounded individuals equipped for the demands of the 21st century.

References

Alterio, M., & McDrury, J. (2004). *Learning through storytelling in higher education: Using reflection and experience to improve learning* (2nd ed.). Taylor & Francis e-Library, USA

Andrews, S. V. & Martin, D. (1995). *Value education in elementary school: A practical application of research.* https://eric.ed.gov/?id=ED382379

Bansal, P. (n.d.). Developing critical thinking skills: A thinking journey. Retrieved from https://www.academia.edu/7296750/Developing_Critical_Thinking_Skills_A_Thinking_Journey

Bishop, R., & Glynn, T. (1999). *Culture counts: Changing power relations in education*. Dunmore Press.

Bruner, J. (1986). *Actual minds, possible worlds*. Harvard University Press.

Dash, D. (2015). Effectiveness of storytelling approach in inculcating values identified by NCERT among the 6th grade learners of Odisha state. *Scholarly Research Journal for Interdisciplinary Studies, 3*(16), pp. 2583-2590.

Dhingra, K. (2011). *Effect of cuento storytelling technique on social maturity and moral values in students.* http://shodganga.inflibnet.ac.in/handle/10603/240352

George, K. M. (2016). *Impact of play, brainstorming and storyline on creativity among middle school children.* https://shodhganga.inflibnet.ac.in/handle/10603/201002

Government of India. (2019). *Draft National Education Policy 2019*. Ministry of Human Resource Development. https://www.education.gov.in/sites/upload_files/mhrd/files/Draft_NEP_2019_EN_Revised.pdf

Hunter, C & Eder, D. (2010). The role of storytelling in understanding children's moral/ethic decision-making. *Multicultural Perspectives, 12* (4), pp. 223-228. DOI: 10.1080/15210960.2010.527593

Izzah, L. & Mutiarani, M. (2015). *The power of storytelling in teaching English to young learners* [Conference Paper], 1. https://doi.org/10.5281/zenodo.1214962

Jones, S. L. & Sanguedolce, P. (2013). *Developing higher order thinking skills through story gathering.* https://www.researchgate.net/publication/281116300

Lipman, M. (2003). *Thinking in education* (2nd ed.). Cambridge University Press, UK.

Mangal, S. K. (2014). *Advanced educational psychology*. PHI Learning Pvt. Ltd.

Muhammed, A. I. (2016). The impact of storytelling on young ages. *European Journal of Language and Literature Studies, 2* (3).

Nassim, S. (2018). Digital storytelling: an active learning tool for improving students' language skills. *Pupil: International Journal of Teaching, Education and Learning 2* (1), pp. 14-29.

NCERT. (2005). *National Curriculum Framework 2005*. National Council of Educational Research and Training. https://ncert.nic.in/pdf/nc-framework/nf2005-english.pdf

Piaget, J. (1948). *The Moral Development of the Child*. New York: Free Press

Ritchhart, R., & Perkins, D. N. (2008). Making thinking visible. *Educational Leadership, 65*(5), 57–61.

Verma, R., & Anurima. (2019). *Role of thinking style in concept formation*. Retrieved from https://www.amity.edu/aien/aijte/articles2019/role%20of%20thinking%20style%20in%20concept%20formation.pdf