

**Effect of** 

# TOY INTEGRATED PEDAGOGY

on Learning of Elementary School Children in District West of Delhi An Exploratory Study





# **DISTRICT INSTITUTE OF EDUCATION AND TRAINING**

(State Council of Educational Research and Training)
Old Rajinder Nagar, New Delhi – 110060

# Effect of

# TOY INTEGRATED PEDAGOGY

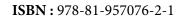
on Learning of Elementary
School Children in District West of Delhi
An Exploratory Study

Project Coordinators

Ms. Deepika Malhotra Ms. Prabha Uniyal Dr. D. S. Yaday

# DISTRICT INSTITUTE OF EDUCATION AND TRAINING

(State Council of Educational Research and Training)
Old Rajinder Nagar, New Delhi – 110060



March 2023

No. of Copies: 600





### Advisor

Sh. Rajanish Singh, Director, SCERT, DELHI

### Guidance

Dr. Nahar Singh, Joint Director Academic, SCERT Delhi

Dr. Ranjana Ruhela, Principal, DIET, Rajinder Nagar

# **Research Advisers**

Dr. Monica Gupta, Associate Professor, Department of Elementary Education,

Gargi College, University of Delhi

Dr. Vikas Baniwal, Assistant Professor, Department of Education CIE, University of Delhi

Dr. Mamur Ali, Assistant Professor, Department of Education JMI, Delhi

# Researchers

Ms. Prabha Uniyal, Assistant Professor, DIET, Rajinder Nagar (SCERT), Delhi

Ms. Deepika Malhotra, Assistant Professor, DIET, Rajinder Nagar (SCERT), Delhi

Dr. D. S. Yadav, Assistant Professor, DIET, Rajinder Nagar (SCERT), Delhi

# **Report Writing**

Dr. D. S. Yadav, Assistant Professor, DIET, Rajinder Nagar (SCERT), Delhi

Ms. PrabhaUniyal, Assistant Professor, DIET, Rajinder Nagar (SCERT), Delhi

Ms. Deepika Malhotra, Assistant Professor, DIET, Rajinder Nagar (SCERT), Delhi

### **Editors**

Ms. Deepika Malhotra, Assistant Professor, DIET, Rajinder Nagar (SCERT), Delhi

Dr. D. S. Yadav, Assistant Professor, DIET, Rajinder Nagar (SCERT), Delhi

Ms. PrabhaUniyal, Assistant Professor, DIET, Rajinder Nagar (SCERT), Delhi

# **Contributors:**

Dr. D. S. Yadav, Assistant Professor, DIET, Rajinder Nagar SCERT, Delhi

Ms. PrabhaUniyal, Assistant Professor, DIET, Rajinder Nagar SCERT, Delhi

Ms. Deepika Malhotra, Assistant Professor, DIET, Rajinder Nagar SCERT, Delhi

Dr. Monica Gupta, Associate Professor, Department of Elementary Education,

Gargi College, University of Delhi

Dr. Vikas Baniwal, Assistant Professor, Department of Education CIE, University of Delhi

### **School Practitioner**

Mrs. Jyoti Lakra, English Teacher, School Practitioner, Sarvodya Coed Vidyalya A-2 Paschim Vihar

Mrs. Anita Social Science Teacher, School Practitioner, Sarvodya Coed Vidyalya A-2 Paschim Vihar

Mr. Subham Singh, Centre for Culture and Media Governance, Jamia Milia Islamia, New Delhi

Ms. Kirti Vasudeva, Toy pedagogy Practitioner, Social Science, Alumni DIET, Rajinder Nagar (SCERT), Delhi

# **Data Analytics Team**

Ms. Pinky Yadav, Ph.D. Research Scholar, CIE, Department of Education, University of Delhi

Mr. Abhay Kumar Singh, Ph.D. Research Scholar, CIE, Department of Education, University of Delhi

Ms. Asha, Ph.D. Research Scholar, CIE, Department of Education, University of Delhi

Mr. Sudhir Kumar Yadav, Ph.D. Research Scholar, CIE, Department of Education, University of Delhi

Mr. Raviranjan Kumar, Ph.D. Research Scholar, CIE, Department of Education, University of Delhi

Mr. Ripu Daman Lao, M.Ed Scholar, CIE, Department of Education, University of Delhi



# Acknowledgements

We are grateful to several people for their contribution to this research work and in making of this report. First and foremost, we are obliged to the Dr. Anju Gehlot, Principal Sarvodaya Co-Ed Vidyalaya A2 PaschimVihar, Teachers of Grade 7-C, Ms Palvinder Kaur, Ms Anupama & Ms Ruchika Sehgal and all learners of this grade for their support during the fieldwork.

A special word of thanks to Dr Ritika Anand for facilitating and orienting the teachers of Sarvodaya Co-Ed Vidyalaya A2 Paschim Vihar.

We sincerely thank Ms Asha and Mr Sudhir for the data collection and Ms Tina for developing the tools. We also extend our heartfelt thanks to our practitioners, Ms Jyoti Lakra and Ms Anita Goyal, for executing toy-integrated pedagogy in grades 7-C.

A special thanks to Mr Subham and Ms Kirti for observing and practising this approach with learners enthusiastically.

We acknowledge the Research Scholars from the CIE, Dept of Education, University of Delhi, Ms Asha, Mr Sudhir, Mr Abhay, Mr Raviranjan, and Mr Ripu Daman Lao, for data analysis Ms. Pratibha BRP from DIET RN for her support during orientation workshop at DIET RN. A special word of thanks to Ms Pinky Yadav for the final editing and proof reading of the manuscript. It is only due to the contribution of these people that this work attained its present form and shape.

24 March 2022





# Preface

Playing with toys is fun,

"The best toy is that which is incomplete, a toy that children together complete while playing. Toys should be such that they bring out the childhood of a child and also his or her creativity."

-RabindraNath Tagore.

Students in middle school, especially Grades 6, 7 and 8, might be learning about concepts related to their day-to-day lives in school. However, often, they are unable to make those connections because the instructional practices may not make the connections explicit for them. In our experience, we have seen that while students spend much time in the classroom, they struggle with conceptual understanding. One of the reasons could be that instructional practices across different subjects remain in silos. Hence, there is a need to find ways to integrate their learning. A theme-based curriculum that could introduce concepts to children using toys has been found to be particularly engaging for young children. Hence, this study aims to design and implement an intervention to engage students in the learning process using toys.

This research study attempts to explain the teaching-learning process of helping children build an understanding of concepts with the playful act of creating toys like the sound and rhythm of dumroo. The study was planned with this premise in mind. With this study we wish to reach more schools and educational spaces with the intent of promoting Toy-integrated Peadgogy. We hope that more and more students and teachers benefit from this approach and render the educational process a meaningful and joyful learning experience.





# Contents

Ack	nowle	dgements	v
Pref	ace		vii
Abb	reviati	ions	xi
1.	Intro	oduction	1
	Liter	rature review	4
	Ope	rational Definition	7
	Purp	pose of the Study	7
	Rese	earch Questions	7
	Rese	earch Objective	7
2.	Rese	earch Design	9
	2.1	Paradigm of the study	11
	2.2	Field of the study	11
	2.3	Sources of data	14
	2.4	Population of the Study	14
	2.5	Sample of the study	14
	2.6	Tools and techniques used for data collection	15
	2.7	Development and validation of tools	16
	2.8	Procedure of data collection	16
	2.9	Data Transcription	16
	2.10	Organization of data	16
	2.11	Analysis of data	17
	2.12	Ethical consideration	17
3.	Data	a Description and Analysis	19
	3.1	Analysis and findings of classroom observations	21
		3.1.1 Content	21
		3.1.2 Teaching Methods	22
		3.1.3 Questioning	23
		3.1.4 Classroom Climate and Student Culture	23
		3.1.5 Feedback	24

3.2	Analysis and Findings of interviews	24
	3.2.1. Attitude towards Discipline	25
	3.2.2. Supplementing Bookish Knowledge	26
	3.2.3. Extension of learning at home	27
	3.2.4. Teaching-learning Process	28
	3.2.5. Quality of Learning	30
	3.2.6. Extension of TIP to other disciplines	32
	3.2.7. Teachers' Attitude towards TIP	35
	3.2.8. Limitations and Challenges of TIP	35
	3.2.9. Suggestions for implementation of TIP	36
3.3	Analysis and Findings of Assessments	36
Conclusion	ns	41
References		47
Annexure		49
Anne	exure A : I-Interview schedule for students	51
Anne	exure II : Interview Schedule For Teachers	53
Anne	exure III : Interview Schedule for Practitioners	55
Anne	exure B : Observation Schedule For classroom	57
Anne	exure C : Sample Lesson Plans	60
Anne	exure D : Photographs of Children's toys and toy-integrated activities	
	& Orientation Workshops	71



Ü

# Abbreviations

D.El.Ed.	Diploma in Elementary Education
DoE	Directorate of Education
HOS	Head of School
NCERT	National Council of Educational Research and Training
NCF-FS	National Curriculum Framework for Foundational Stage
NEP	National Education Policy
PTM	Parent - Teacher Meeting
SCERT	State Council of Educational Research and Training
TIE	Theatre in Education
TIP	Toy-Integrated Pedagogy



# Introduction

1 Introduction

"Toys are children's words and play is their language,"

# - Gary Landreth.

Toy can be defined as any object or feature that assists in learning. While it has been established that toys are essential to a child's development. Toys facilitate contextual understanding of ideas which in turn improve memory. Toys are objects that encourage children's expression, and improved cognitive & physical abilities as well as emotional support, within the family. Playing with toys helps children to show their emotions by coming out of their shells and expressing their vulnerabilities. It helps them accept their own originality, accepting who they are which ultimately leads to self –realization and self- actualization. It helps in maintaining home-school continuity.

With the launch of the National Education Policy (NEP 2020), there is an urgent need to rethink the curriculum and pedagogy in our schools. To encourage creativity, hands-on learning and critical thinking, the curriculum implementation in our schools must be such that it provides these opportunities to the children. Craft-based activities or tasks are also based on the fundamental principle of "learning by doing", which was and is a crucial component of NCF 2005 and NEP 2020. Learning by doing was expounded by John Dewey, which is a hands-on approach to learning in which children construct their knowledge by manipulating the materials present in the environment. Another such pedagogic approach is toy-based pedagogy, which NCFFS 2022 (p.97) also recommends.

A closer look at the traditional teaching-learning process reveals several prevalent problems in our classrooms. Most mainstream schools focus on rote learning and memorisation that emphasise learning through cramming. In such an approach to teaching, obtaining higher grades or marks is more important than understanding and connecting the learnings with real-life experiences. Therefore, children fail to connect their classroom learning to deeply embedded sociocultural contexts. This lack of connection results in disengagement with the content and the classroom processes and renders learning joyless.

Later, when the learners enter the professional and social spaces in society after schooling, one of the many problems they encounter is that they do not know how to deal with people with different values and belief systems. They find it difficult to work in a team or cooperate with those with different thought processes. As a result, they either withdraw from social interactions or become inefficient or uninterested (Arora, 2020).

Furthermore, higher education demands from students critical and logical thinking skills with an ability to argue and make profitable decisions. Traditional schools, however, with their focus on the content of the prescribed textbooks, fail to develop these skills and abilities among students. The learners often fail to make appropriate decisions regarding their life because they are only taught what to think, not how to think. Yet another problem with traditional classrooms is that they offer a one-size-fits-all approach. In other words, it cannot provide students with a personalised learning experience. They force all students to follow the same pattern and learning style, regardless of their aptitude and interest. This is why students frequently find traditional schooling uninteresting.

To make learning joyful, interesting, and experiential, toy-integrated pedagogy is an alternative route in which children learn lessons through their play toys. It breaks the monotony of the classroom, and children actively engage in meaningful constructions of their own learning experience.

# Literature review

Toy-integrated pedagogy means teaching and learning with toys and games (Rana&Yadav, 2023). It is a flexible approach that provides the learner with opportunities like exploring, imagining, observing, creating, expressing and, most importantly, engaging (NCERT, 2021). From making toys to playing with them, this approach has the possibility of making learning a unique experience. In this approach, the role of the teacher is to create spaces in school education to use toys strategically and appropriately for linking new concepts or subjects, either by making toys or using them in other teaching and learning processes in the classroom, thereby turning the learning processes more engaging (NCERT, 2021).

Using toys provides ample opportunities for learners to explore, imagine, observe, create, express and, most importantly, engage and play. If toys are used appropriately and strategically with concepts and subjects, the process from making toys to playing with them can promote hands-on learning. Researchers (Arora, 2020, Rana&Yadav, 2023, Sudhir, 2020, Chandra, 2021, Kara &Cagiltay, 2020) argue that toys play a crucial role in enhancing the learning experiences of children and turning the process more meaningful and personalised to them. Toy-integrated pedagogy can foster creativity and curiosity among children, especially among primary and upper primary levels. Hence, adopting a toy-integrated pedagogy can help to foster skills such as problem-solving, logical thinking, conflict-resolution ability, and creativity in children.

Integration of toys and games for learning means the toys and games are placed at the centre of the curriculum and help in simplifying, clarifying and concretising abstract concepts. Toy integration in the curriculum provides means to bridge the content of different subjects seamlessly in a logical and learner-centric manner. Using toys and games in pedagogy can be efficient tools for developing 21st-century skills like creative and critical thinking, reasoning, problem-solving, adaptability and communication (NCERT, 2022, p.7).

When discussing toys in school education, we focus mainly on indigenous toys and games. The educational relevance of toys, especially indigenous toys, is that they are economical and cultural. Exposure to these toys and games in a formal setting brings cultural awareness, enhances cultural expression, and opens multiple avenues for the revival and promotion of traditional toys and games.

In the present context, Indian toys, such as dolls and puppets, have an interesting range as toys as diverse as our culture have a huge potential to meet most of the curricular needs at the school level. The discovery of toys in India can be traced back to Harappan civilisation, with toys such as wheel carts, dice, etc., having been discovered. Traditional toys have been a significant part of our culture (SCERT, 2022, p. 7). There is a great variety of Indian toys and games, such as board games, mechanical toys and robotics, specifically designed to keep the learning and developmental needs of the learner in view. Some of the most popular ones are tops which are popularly known as *lattoo* - also called spinning tops, Kites, *dug-dugi*, *Firki*- also called pin-wheel, magic cards, flying birds, magic snakes, etc. They surely spark and gear up the process of cognitive, psychomotor, and emotional development of every learner, including children with

special needs. Indigenous toys and games can also play a major role in developing cultural understanding and cultural expression among students in the secondary stage (NCERT, 2021).

NEP 2020 aims to transform the nature of learning assessments from one that is summative and primarily tests rote-memorization skills to one that is more regular and formative. The inclination of the policymakers towards assessment procedures that would evaluate not only academic knowledge but also skills and abilities accentuated the very change in the approach towards assessment. Integration of toys not only facilitates the process of holistic assessment but also caters to every dimension of the learning process. NEP 2020 envisages a shift from summative assessment to assessment whereby every pillar of learning can be strengthened. The incorporation of toys in classroom paraphernalia can aid this aim whereby children would learn with zeal and would also instil skills like analysis and critical thinking that were articulated in the NEP document.

Including toys in the teaching-learning process provides a platform for learning by manipulating the stimuli present in the classroom. By boosting IQ, satiating curiosity, educating children about the world around them, and providing hours of entertainment, toys not only help children develop but also have an educative value. Games and toys are available for kids of all ages, from newborns to adults and even older. The eminence of such pedagogical practices is also articulated in the '*Toy-based pedagogy*' (NCERT, 2022), which explicitly states that Toys have a great potential to help children in their holistic development.

Children naturally repeat activities that make them happy and help them develop various talents without realising them. Hence, using toys and games in educational spaces, such as schools and classrooms, will help children connect with the cultural heritage and understand and respect the diversity of Indian culture and its roots. This process of integrating indigenous toys and games will not only make learning joyful but will also facilitate competency-based learning. Toys can be used in several ways to make learning interesting and joyful. Children construct knowledge from their surroundings and understand science, technology, arts, language, and mathematics as hands-on experiences (Cardoz, 2022).

There are several policy documents and literature which have given much more importance to toy-integrated pedagogy in school education. NCFFS (2022, pp. 97-98) also mentions toy-based pedagogy. The Framework mentions that playing with toys helps the classroom environment to cultivate the spirit of exploration and provide first-hand experience to the learners. Toy-integrated learning helps students to practise their Motor skills and strengthens their senses. It develops thinking and communicating skills and developmental abilities among learners. It also mentions traditionally used toys like ring sets, puzzles, *dhingle*, and *rasoi* (Kitchen) sets (NCFFS, 2022, p. 98). In toy-based learning, children can manipulate concrete objects and make their learning through enjoyable and meaningful play activities. This means that toy-based learning is self-directive and facilitative. NCFFS (2022) also mentions the outcome of using toys in the classroom; these are Physical development, socio-emotional and ethical development cognitive development.

Although NEP, (2020) does not specifically talk about toy-integrated learning, it talks about experiential learning in all stages of schooling. Experiential learning, in very general terms, refers to acquiring knowledge through personal experiences (Douladeli, 2014, p. 1256). It is one of the most funfilled, engaging, and effective ways to understand new concepts. Experiential learning helps move away from rote learning or cramming and provides children with hands-on experiences. Engaging with toys,

games, projects, crafts, etc., also brings experiential learning. The learners can also learn investigation, experimentation, problem-solving approaches, taking responsibility, being creative, and constructing meaningful knowledge through this process. This process also encourages embodied cognition – where the involvement of body and emotions mind creates a learning experience that involves the entire being of the person. The primary role of the teacher in this process is that they create a suitable environment for desired experiences, pose problems, set boundaries, support learners, ensure physical and emotional safety, and facilitate the learning process. Toy-integrated pedagogy could be one of the best ways to gain meaningful learning through experience. The development of toys by students promotes active learning and an engaging environment in the classroom. Multiple senses and doing are important components of active learning. Doing as a hands-on experience for the students further expands the learning. Students collaborate in groups, which helps to develop social and interpersonal skills. The development of toys by students engages them in a deeper conceptual understanding and idea generation. Interactive classrooms create an environment for students to enhance their creativity, problem-solving skills and critical thinking. Students become more engaged in the classroom (Sirinterlikci et al., 2009, pp. 14-22).

Toy-based Pedagogy: A Handbook (NCERT, 2022) focused on integrating toys in the teaching-learning process, and toys play an important role in constructing meaningful learning in school education. It talks that the students construct their knowledge from their surroundings and related objects. When a child engages with toys and games and manipulates them, they strengthen their motor skill and hand-eye coordination, which leads to physical development. It also described that toys could help students expand their creative thinking, comprehensive thinking and thinking out of the box. Toys may also facilitate multidisciplinary and interdisciplinary learning of the students. Integration of toys in teaching learning can be an effective way of developing 21st Century skills such as creative and critical thinking, reasoning, problem-solving, communication and adaptability. It also explains that Toy-based Pedagogy is part of Play-based Learning; "Play is a process, while board games, toys, or field games are objects on which play operates." (NCERT, 2022, p. 4). Toys and games can help enhance students' cognitive skills, such as attention, memory, visual processing, auditory processing, and processing speed. They are also useful in developing socioemotional skills such as self-awareness, self-management, social awareness, relationship skills, and responsible decision-making.

Learning with Toys (SCERT, 2022) emphasises integrating toys for hands-on experience while connecting concrete objects with abstract ideas. It is a participatory approach which enhances creativity and collaborative learning. Toy-based pedagogy provides an alternative means of expression for every learner. This ease of expression helps learners present their emotions with increased self-awareness. It helps to develop cognitive, socio-emotional, psycho-motor and practical skills. These skills are essential for the holistic development of any learner.

While using toys has innumerable benefits, basing the entire pedagogic plans on toys may turn monotonous and has the potential risk of diluting the intensity and value of the intended learnings. Moreover, children from older grades may not enjoy engaging with toys as much as children from primary grades. Therefore, keeping in mind the population and sample for this study which is elementary classes, toy-integrated pedagogy has been used over toy-based pedagogy as suggested by the existent literature.

# **Operational Definition**

Toy – A toy is an item that is used primarily by children to play with for amusement and has a socio-cultural-historic significance with a potential educative value. It can be any concrete object which facilitates play or a game.

Toy-Integrated Pedagogy - Toy-integrated pedagogy refers to a pedagogic approach that uses toys, in a planned and strategic manner, as an integral part of the teaching-learning process in a classroom to facilitate learning. It is, however, not limited to just the use of toys. Toys are used at various steps of the pedagogic plan but are also complemented with other activities such as role-play, drama, crafting, selfexpression and others.

# Purpose of the Study

Students in middle schools, especially classes six, seven and eight, branch out their learning into various subject areas often disconnected from them. They might be learning about concepts related to their day-to-day life in school. However, often, they are unable to make those connections because the instructional practices may not make the connections explicit for them. In my experience, I have seen that while students are spending a lot of time in the classroom, they are still struggling with conceptual understanding. One of the reasons could be that instructional practices across the subjects remain in silos. Hence, there is a need to find ways to integrate their learning. A theme-based curriculum that could introduce concepts to children using toys is particularly engaging for young children. Hence, the purpose of this study is to design and implement an intervention that would engage students in the learning process using toys to discover their identities, they help with cognition, learn cause and effect, explore relationships, become stronger physically, and practice skills needed in adulthood. Hence, they support the harmonious development of personality.

# **Research Questions**

- 1. What is the role of toys in children's learning in middle school?
- 2. What is the rationale for implementing Toy-Integrated pedagogy in middle school?
- 3. How do students engage with toys in the learning process?
- 4. What is the role of Toy-Based pedagogy in holistic development?

# Research Objective

- 1. To develop toy-integrated plans
- 2. To demonstrate how their use could make the class more engaging.
- 3. To improve students' sensitivity to the social context of society.
- 4. To delineate the nature of learning promoted by toy-integrated pedagogy.

# Research Design

# Research Design

This study intends to find out how toy-integrated Pedagogy works in the classroom and is based on qualitative research methodology. Therefore, the study has a predetermined context, which is the classroom. It demands a 'detailed examination of a small sample' (Tight, 2010, p. 337) and an in-depth investigation of a specific, real-life 'project, policy, institution, program, or system' from multiple perspectives to catch its 'complexity and uniqueness' (Simons, 2009, p. 21). The researcher developed toy-integrated plans and demonstrated how their use could make the class more engaging to explore the possibilities of and for Toy-integrated teaching in Social Science and English. The study also tried to capture how this pedagogy improves students' sensitivity to the Socio-political context of society and describe how Toy-integrated pedagogy encourages cooperative learning. The following was the methodology of the study.

# 2.1 Paradigm of the study

This study is situated in the interpretive paradigm. The researcher wanted to find out how toy-integrated pedagogy works in the classroom. Any classroom is characterised by diversity and multiplicity of voices and experiences. The presence of a group that is a constituent of different socio-political-cultural contexts and realities leads to a variation in learning experiences irrespective of sharing temporal and spatial realities. Here, the nature of reality is subjective, and consequently, the data comprises subjective experiences. Therefore, an interpretive paradigm is best suited to capture these variations and diversities and present more reliable data.

# 2.2 Field of the study

This study was conducted at a school in West Delhi from Nov 2022 to Feb 2023. Since the study is exploratory and requires longer engagement with the field, the school, Sarvodaya Co-Ed Senior Secondary School, A-2 PaschimVihar- was selected. This selection was based on the convenience of the primary researcher and other research associates, along with the intent for smooth conduct. Class 7<sup>th</sup> C was chosen as a unit of the study.

# Pre-Planning/Sparking a Readiness

The researcher planned to initially prepare some Toy-Integrated lesson plans and give them to teachers for teaching to their students from the Toy-Integrated approach. In the field, most of the teachers were not aware of this pedagogic approach and didn't know how to teach using this. Therefore, the researcher planned a 3-day workshop to provide hands-on training to them so that they can teach students effectively using Toy-Integrated Pedagogy. Three Resource persons were invited to conduct this workshop based on their expertise.

**Title of the workshop** – Orientation Sessions with sample school's HOS and faculties

# Plan of workshop

Day	Торіс	Resource Person
Day - 1 Session	NEP 2020 and toy-integrated pedagogy	Dr Monica Gupta, Gargi College
	Toy Tradition and children's Play	&
	Toys and psychological Development	Ms RitikaAnand, VP St. Marks SS School
Day -2 Session	Toys in School (Conducive Environment for toy-integrated learning	Ms. Taniska Gupta (School Practitioner)
Day -3 Session	Learning with Toys (demonstration and Practice)	Mr.Surender Kaur

In this workshop, intensive training was given to the HOS and other faculty members of the school selected for the study.

After this workshop, the researcher invited two experts; one is the vice principal of St. Mary School, Ms Ritika Anand, who had already worked in this area. She also prepared lesson plans for a chapter – Devotional Path to the Divine, from the prescribed History NCERT textbook for class seven. The second Resource Person was Ms. Taniska, who worked with Teach For India on similar projects. She developed Lesson Plans for a lesson from the prescribed English textbook. After planning the lesson, both resource persons also conducted a demonstration for the teachers of class seven on how to conduct these plans in the classrooms.





# Orientation Workshop sessions on toy-based pedagogy with School Teachers S.Co.Ed Vidyalya A-2 Paschim Vihar & DIET Trainees at DIET RN



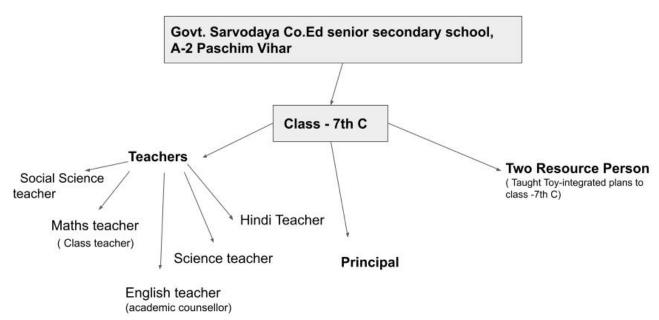
# 2.3 Sources of data

The collection of data was done from primary sources. The researcher selected a school and developed research tools following due procedures. The research design was generated in consultation with experts, practitioners, advisors and other stakeholders in the study, such as the sample school. The sample class, seventh C, was allotted by the school. The content was as per the ongoing term and the subsequent syllabus as per the school academic calendar. This was done to ensure that students do not suffer any learning loss while being part of the research study. The research design was evolved and improvised as per the emergent needs of the study in consultation with the experts. Two practitioners of toy-integrated pedagogy were asked to observe and practice the prepared plans alongside the regular subject teachers, as and when required, during the latter course of the study. Regular classroom observations were made. After conducting all classes, in-depth semi-structured interviews were conducted with all the stakeholders involved in this study, like teachers, students, and practitioners.

# 2.4 Population of the Study

The present study was carried out to explore the importance of toy-integrated pedagogy in the elementary classroom. For this study, students, teachers, and principals or HoS of Govt schools in West Delhi constituted the population of the present study.

# 2.5 Sample of the study



Using purposive sampling, keeping in mind the objectives and design of the study, a Government school of Sarvodaya Co-Ed Senior Secondary School, A-2, PaschimVihar- was selected. Class 7th -C was allotted as a unit of the study. For collecting feedback from the students, the class teacher of the 7th -C class, the Principal, the academic coordinator (and their English subject teacher), the social science teacher, the Hindi, and the science teacher were also selected. Mediating the challenges of seeking permission and managing other formalities for the study, a Govt school seemed more apt to be the sample for the study. To

ensure gender neutrality, a Co-Ed school was chosen. The selection of class 7th C as the unit of the study was at the sole discretion of the school principal. Keeping in mind the exploratory nature and duration of the study, the study was delimited to only one class.

The learners of Class 7th-C are a diverse, heterogeneous group. The differential learning needs of these students had not been addressed because of reversals caused by the COVID-19 pandemic. The student's reported self-esteem in this classroom was very low. C sections in schools functioning under the Delhi Directorate of Education are characterised as 'weak' in reading and writing compared to sections A and B, as reported by the regular teachers and the principal along with the preliminary observations of the researcher, labelled as weak, the students also began to see themselves in the light of this label, which resulted in low self-confidence and low self-esteem among them. As a result, they did not express or talk much in the classroom.

For this study, the stakeholders and participants who directly contributed to the study were interviewed to capture the first-hand experiences of the interventions made. Additionally, school teachers, having known the students for a long time, were interviewed to capture the impact or effects of using toy-based pedagogy and their temporality.

# 2.6 Tools and techniques used for data collection

Tools for data collection included **observations**, **semi-structured interviews** and **assessments**, both formative and summative. Interviews were conducted with students, teachers, and resource persons.

**Observations in classrooms:** Classroom observations were conducted, which helped in understanding the pedagogical practices of the teachers, the implementation of the toy-based intervention and children's interaction with the curriculum.

**Interviews**: A semi-structured interview schedule was developed for taking interviews. The interview was conducted in face-to-face mode with selected participants. The class teachers, subject teachers, principal and practitioners were interviewed regarding their pedagogy, curriculum, its implementation, planning, use of toy-integrated pedagogy and so on. Three semi-structured open-ended interview schedules were developed. One for the practitioners who facilitated the conduct of toy-integrated pedagogy lesson plans. The second was for Teachers who teach class 7th-C, and the third was for students to know their experiences of a toy-integrated classroom.

A total of nineteen participants, which included eleven students, two practitioners, five teachers of class 7 and the school principal were interviewed.

Students who volunteered and were comfortable with the process were chosen for the interviews. Since students are the ones who experienced this Pedagogic approach and were meant to benefit from the same, it is important to know their views, experiences, and perception towards toy-integrated pedagogy. Practitioners were the stakeholders who implemented this pedagogy and spent time with the students. So they were the ones who could provide important insights, thought processes and assumptions into this approach and help in giving a wider perspective of using it. Another category of the interviewee was the teachers. The teachers of class 7 spent the longest time with the students. They were the ones who could tell the differences in learners before using this pedagogy and after using this pedagogy, if any. They are

the ones who stay in the classroom or will practise these methods in future. Knowing their views and challenges as a part of the system is, hence, very important. An interview with the Principal was also taken to know her observation, how she views this approach at the school, and what changes she observed, if any.

**Assessments**- Keeping up the spirit of NEP, the assessment was done within the assessment for learning paradigm with an intent to facilitate learning and enhance learning experiences rather than evaluating what has been learnt. For this, children were asked to write reflections, share their thoughts and participate in other activities that were conducted throughout the study. The same has been analysed in alignment with the research objectives of the study.

"The rationale for this strategy is that the flaws of one method are often the strengths of another, and by combining methods, observers can achieve the best of each while overcoming their unique deficiencies" (Willis, 2007). These three tools signifying the use of multiple sources through which data was collected, i.e. from observation, interviews, and assessments, helped triangulate data for a valid conclusion.

# 2.7 Development and validation of tools

Tools play a significant role in data collection in any research study. Researchers developed relevant tools for data collection. The tool was then validated in consultation with an expert. The tool was modified as per the suggestions made and only then administered in the field.

# 2.8 Procedure of data collection

Process of data collection is accomplished with the help of tools. Those tools were administered on the identified data sources by taking care of the focused objectives of this study. For this study, Observations were done of toy-integrated classes, semi-structured interviews were taken, and assessments of students' learning processes were also done. These tools were used to get valid, reliable, true, rich, and concrete data from various sources like students, teachers, and resource persons. The researcher collected data face-to-face, in which the researcher debriefed and took consent from each participant.

# 2.9 Data Transcription

Interviews were conducted in physical mode. During the interview, a phone recorder was used for recording. A total of 19 Interviews were taken with students, teachers, principals, and practitioners. After taking the interview on the same day, the researcher transcribed the data so she did not miss any important information. The researchers also documented the non-verbal cues observed during the interview in transcription scripts.

# 2.10 Organization of data

To conclude, data collected by the researcher was presented systematically. Data were collected using three tools, classroom observations, interviews, and assessments. The themes that emerged from these collected data were represented and organised. Those broad themes were as follows:



	Data Source	Themes
1.	Analysis and findings of classroom	Content
	observations	Teaching techniques
		Questioning
		Classroom climate and student culture
		Feedback
2.	Analysis and findings of interviews	Attitude towards discipline
		Supplementing bookish knowledge
		Extension of learning at home
		Quality of learning extension of TIP to other disciplines
		Expression of attachment
		Classroom environment
		Teachers' attitude towards TIP
		Limitation and Challenges of TIP
		Suggestions for the implementation of TIP
3.	Analysis and findings of assessments	Assessment Centrally Focused Around:
		Assessment for learning
		Self and peer-Assessment ,
		Reflection and self-expression, Critical understanding

# 2.11 Analysis of data

The data collected from observations and interviews were analysed using thematic content analysis. Data was coded, and then themes were developed. Conclusions were drawn based on the broad common themes that emerged.

# 2.12 Ethical consideration

In educational research, participants are humans, so researchers must deal with ethical considerations with more sensitivity. Before conducting the study, the researcher informed the participants about the aim and importance of the study, along with the rights of the participants. They were also informed about the withdrawal process from the study and that it would bear them no consequences. Before recording the data, the researcher informed and took permission from all the participants. If any participant did not wish to reveal their identity, confidentiality, and anonymity have been maintained by using pseudo names.

# Data Description and Analysis

# 3

# Data Description and Analysis

This section presents the description and analysis of collected data through observations, interviews, and assessments. This section is divided into three parts. The first part focuses on the analysis of observations. In the second part, responses given by the teachers, students, principal, and practitioners during the interview have been discussed and analysed. In the third section, assessments of students are presented and analysed.

The present study was carried out to explore the importance of toy-integrated pedagogy in elementary classrooms. To achieve this purpose, detailed Observation, in-depth interviews and holistic assessments were conducted. From the collected data, major themes are identified. All major themes emerged from the data, and those themes were identified based on the objectives of this study. Data has been analysed under the following categories:-

- Analysis of Classroom Observation
- Analysis of Interview
- Analysis of Assessments

# 3.1 Analysis and findings of classroom observations

In this section, the researcher has critically analysed the observations which were done with the help of an observation schedule which was developed along with the other tools. The observation schedule was divided into five broad categories. Under these categories, sub-points of observation were added. The five categories into which the observation schedule was divided are content, teaching methods, questioning, classroom climate and student culture and feedback.

The following concepts were taught in these classes – (7th Class) the idea of God, the Bhakti Movement, the Saints of Maharashtra, *MeeraBai*, *Guru Nanak*, and Sufism (Chapter-8 history -Devotional path to Divine). In English Poems-Tree & Chivy and chapter *Gopal* and *Hilsha* Fish were observed by the practitioners and the regular teacher.

The data has been analysed using the following codes:

- Few: when 1–2 respondents have highlighted something.
- Some: when 3–4 respondents have highlighted something.
- Many: when 5–6 respondents have highlighted something.
- Most: when 7–8 respondents have highlighted something.

Following the observation schedule, the analysis of class observation is presented in the following sub-themes:

# 3.1.1 Content

It was observed that while teaching, the teachers have clarity of the objective as per the present stage of learners. During the class, few teachers selected relevant examples, few teachers used real-world

applications, and few teachers used analogies relevant to the course content and students' experiences.

From this description, it can be said that to make this pedagogy more effective, teachers used different ways like using relevant examples, real-world applications and analogies relevant to the course content and student experiences for developing the clarity of concepts. Efforts towards inculcating all these will make the teaching-learning process more meaningful for the student.

# 3.1.2 Teaching Methods



For teaching the learners, stories, narrations, charts, Anecdotes, toys, and puppets were used. It was noted that during the teaching, teachers were able to grab the attention of students with the help of voice modulation using hand movements and expressed appropriate gestures and by the use of toys. Some other observations record that the directions and process of work were clearly explained. Few Teachers used puppets effectively, and few were used only as another teaching aid alongside books. Many observations state that teachers moved among students to check their progress, understanding, and involvement and to assist with the same. Most observations mention that teachers recognised and responded effectively to changes in student attentiveness. According to the classroom context, Many teachers modified the instruction which suits the current need of the learner. Few teachers were not able to conclude the chapters, and few teachers, to some extent, could recognise and respond effectively to changes in student attentiveness. Few instructors modified the instructions by giving hints and through re-teaching.

# A teacher using Toys in the classroom

From this discussion, it can be said that toys were integrated with different teaching methods. Through this, they could grab students' attention, which encouraged learners to listen to their teacher. In some classes, teachers can provide clear instructions and directions for doing work, which shows some teachers have clarity about what they want to transact. Teachers flexibly modified the instructions according to learners' needs, but some teachers could not conclude, so the responses were mixed. As school teachers practising such a pedagogy for the first time, some of them were able to use it effectively, and some require further improvement for effective transaction of the content by the use of Toy-Integrated Pedagogy.

## 3.1.3 Questioning

Inside the classroom, some teachers asked open-ended questions, a few teachers asked probing questions, and a few teachers asked leading questions. Many teachers observed students given 'wait time' to think during questioning. Among the instructor's responses, few were constructive (Exploratory +Appreciative), few were blunt, and few were appreciative. Few instructors effectively concluded the lesson, and few left with questions for students to explore or ponder over. A few observations mention that teachers tried to conclude the lesson but could not conclude properly.

In the classroom teaching-learning process, raising questions is one of the most important skills of a teacher for checking the understanding of students about a particular concept. From the above description, it can be stated that teachers asked various open-ended questions that provided space for exploration, leading and probing questions. Probing questions help learners to think deeply. The proper time to think and reflect was also provided. The responses of teachers were also constructive. So these kinds of questions and responses provide space to think and get cognitively engaged in the learning process. This practice also helps in developing clarity of the concepts.

### 3.1.4 Classroom Climate and Student Culture

Some teachers address the students by their names and with personalised responses. Some Teachers invite participation by students, who mostly remain silent. The teachers emphasised that all responses are potentially correct, as they facilitate self-expression during learning. During the classes, some instructors exhibited comfortable and non-threatening body language. Some teachers provide opportunities for peer feedback. Some teachers initiated ideas for the celebration of learning, and a few teachers invited feedback on their teaching from students.

One such observation presents the interaction between two children during the activity, who expressed joy and excitement in doing the task. In between the ongoing activity, they were sharing their home experiences and their future dream of being a musician, followed by the luxurious life they would be living after gaining success in that field. Such small talks between students were provoked merely by the art and craft activity, highlighting the important role such engaging activity can play.



Addressing students by their names gives them a sense of familiarity and belongingness. The moment the teacher calls the name of any student, it helps to get the immediate attention of that child. It was observed that before conducting this study, there persisted a "culture of silence". Some teachers tried to break it by inviting participation from non-contributing students. In any classroom, all child must get their space to express themselves and create their identity. These efforts might help in nurturing the voices of students. Some teachers were exhibiting comfortable and non-threatening body language. It helped to make the classroom more friendly, and in such a classroom, students were not fearful of expressing themselves. Overall, a student-friendly classroom environment was attempted to be maintained throughout the classroom.

### 3.1.5 Feedback

As we know, reading and writing are foundational skills for learning. One of the feedbacks received is that opportunities for written work were not provided. Initially, the energy level was also low. The scope for more probing and engagement was present. A toy can be used more effectively.

All this shows that the dynamics of a classroom changed. Here, teachers and students both were actively engaged in the teaching-learning process. Teachers were using methods in such a way students were able to engage. Initiating participation in the classroom. Teachers appreciate students differently, through which participation of non-contributing students also increased.

For the effective implementation of toy-integrated pedagogy, teachers used relevant examples and Analogies relevant to the course content. Teachers transact integrated toy pedagogy with stories, narrations, charts, anecdotes, and puppets. A variety of teaching methods were implemented. Through this effort, teachers were able to engage their learners constructively. A willingness and readiness to involve in the learning process among learners emerged. During the classroom transaction, various questions were asked, like open-ended questions, leading and probing. Probing questions help in thinking deeply, and open-ended questions provide space for exploration. Overall, this effort helped in bringing the participation of children and the development of understanding of teaching concepts. A learner-friendly classroom environment was created in which students express themselves freely. A warm, welcoming, and nurturing environment, to some extent, is provided to children for their overall development.

# 3.2 Analysis and Findings of interviews

In this section, the researcher has critically analysed the Interviews. Interviews were conducted with **eleven students** of class 7 (Section C), **six teachers** (Principal, Academic coordinator/English teacher, a class teacher/Mathematics teacher, Hindi teacher, Science teacher and Social Science teacher) and **two practitioners** who were called to introduce the toy-integrated Pedagogy (TIP) in the school. One practitioner has a Diploma in Theatre in Education(TIE), and the other has a diploma in Elementary Education (D.El.Ed.).

Three interview schedules were constructed to collect data from three groups of research participants-students, school teachers, and practitioners. While analysing the data, the students' names were coded as S1, S2,.....S11; teachers' names were coded as T1, T2,...T5; and the practitioners' names were coded as P1 and P2. The interview data were transcribed and coded for thematic analysis. The themes that emerged

upon data analysis from the interviews with students, teachers, and practitioners are as follows.

Theme	Students	Teachers	Practitioners
Attitude towards discipline	✓		<b>✓</b>
Supplementing bookish knowledge	<b>√</b>	<b>√</b>	✓
Extension of learning at home	<b>√</b>		
Teaching-learning Process	<b>√</b>	<b>√</b>	✓
Quality of learning	<b>√</b>	<b>√</b>	✓
Extension of TIP to other disciplines	<b>√</b>	<b>√</b>	
Teachers' attitude towards TIP		<b>√</b>	
Limitation and Challenges of TIP		✓	✓
Suggestions for the implementation of TIP		✓	✓

# 3.2.1. Attitude towards Discipline

The views of students that History is a **boring subject** in which they do **rote learning** represent the general attitude of school students. One of the reasons for this could be that the subject is taught in a monotonous way in schools.

The practitioners used TIP to teach History to the students. They taught the chapter "Devotional Paths to The Divine" to engage students in the teaching-learning process. This chapter has already been taught to the students by their subject teacher. When the students were asked about differences that they felt with TIP, they said that they had better clarity of the chapter's content after learning with toys. They could differentiate between the Alvar and Nayanars, they were able to narrate the gist of the teachings of the Bhakti saints, and they knew about the Sufi saints.

The practitioners observed that students' **understanding of the content** of the chapter had improved. They could identify the differences in the understanding level of the students over the period of their engagement with the students through TIP. Initially, the students did not have much **clarity** about the chapter, even though it had already been taught. In the later phases, they **responded** to the questions of the practitioners. When asked by the practitioners, students also wrote their understanding on paper.

To quote students-

''हिस्ट्री मेरा फ़ेवरिट सब्जेक्ट तो नहीं है पर जब खिलौनों के साथ काम करना शुरू किया तो इंट्रेस्टिंग लगता था। शुरू में बहुत मुश्किल लगती थी, लंबे आंसर याद करने पड़ते थे। और खिलौनों के साथ आसानी से हो गया। इंट्रेस्टिंग लगता था।'' - (S5)

(History is not my favourite subject but when I started working with toys, I found it interesting. Previously, History seemed very difficult; I had to remember long answers.

With toys, I could remember the contents easily. It was interesting.)

''पहले समझ नहीं आता था और मन नहीं लगता था इतिहास में। पहले बहुत बोरिंग था और अब एक्टिविटी से समझ आने लगा जैसे सूफिज्म टॉपिक में मैडम ने कैप बनवाई थी। इससे हमें सूफी संत के बारे में पता चला था और अगर हम वैसे पढ़ते सीधा बुक से तो पता ना चल पाता।'' - (S1)

(Earlier I could not understand History and I was not interested in it. It used to be very boring. Now I started to understand History with the help of the activities. For example, ma'am asked us to make a cap while teaching the Sufism topic. This helped me to learn about the Sufi saints. I could not have understood this topic if we were taught directly by the book.)

To quote one of the practitioners-

'स्टार्ट करने से पहले ओर लक्वेश्चनिंगकरी क्योंकि वो ये चैप्टर कर चुके थे बट्स्टूडेंट आंसर नहीं कर पा रहे थे। और पढ़ाने के बाद मैंने फिर से क्वेश्चन पूछे तो उनका लेवल ऑफ इंवॉल्वमेंट और रिस्पांस में बहुत फर्क था।'' (P1)

(I asked questions orally before starting because they had already studied the chapter. But students were not able to answer the questions. After teaching the chapter again with TIP, there was a huge difference in their level of involvement and response.)

# 3.2.2. Supplementing Bookish Knowledge

Students' learning of the subject matter is an important concern for the students, teachers, and parents. There are various pedagogical strategies which are prevalent among educators. However, the textbook-centred approach is the usual and dominant pedagogical approach adopted in teaching-learning processes. If one method is used for teaching throughout the year, it might become boring and monotonous for the learners. Further, one pedagogical strategy may not be suitable for teaching all the contents of a subject. Thus, teachers should use different pedagogical strategies in their classrooms.

Toy Integrated pedagogy is one of the innovative strategies that teachers with their students can use. One of the research objectives was to see if there was a difference in students' learning when they were taught using toys, the students were asked to share their learning experiences with and without the toy-integrated pedagogy. The teachers' observations of the change in the students' learning have also been brought out through the interviews. Finally, the practitioners' observations of changes in students' learning throughout their period of engagement with them have also been highlighted in the interview with them.

The students and school teachers both felt that TIP made it easier for students to learn new ideas and content. The students felt a sense of relief while learning with TIP. They did not have to mug up or cram the contents to write them in the examinations. They could understand the contents with clarity and could remember these for a longer time. They could answer the questions in the examinations easily.



To quote the experience of one of the students-

```
"…खिलौनों से याद भी रह जाता है, वैसे कॉपी से रट्टा लगाना पड़ता था…" (S4)
(...with toys, it remains in memory; otherwise I have to cram from the notebook...)
```

To quote one of the teachers-

```
"पहले वो रट्टाफिकेशन में रहते थे। अब वो ईजिली रिप्लाई करते हैं। एक्सरसाइज क्वेश्चन और जो क्वेश्चन मैं देती हूं, दोनो आंसर करते हैं।" (S2)
(Earlier they used to cram. Now they respond easily. They answer both exercise questions and the questions posed by me.)
```

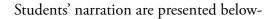
When the practitioners went to the school for the first time, they found that male students and female students of class 7 C sat in separate rows in the classroom. The male students sit in the first and the fourth rows, whereas the female students sit in the second and third rows. Initially, when they were divided into groups, female students were hesitant to sit with male students and vice versa. However, later this hesitation was reduced, and they sat wherever they found seats without minding their gender identity. Male and female students worked together in cooperation. Here, it can be said that **TIP can be helpful in diluting the strict gender divide in the classroom**.

Many times, it was seen that the students used disrespectful language and made racist comments to their peers. In one instance, one of the students came to the practitioners and complained that she was being called disrespectful words related to the region from where she was. The practitioner discussed the matter in the classroom. The learners realised that **disrespectful languageshould not be used** towards fellow human beings regarding their region, religion, race, caste, colour, gender, etc.

"This girl was very shy in front of boys because they were passing racist comments to her, so she said that she didn't want to sit with them. I asked her to repeat after me that she was proud to be of that particular race or community and dare not say anything. It gave her confidence. After that, she never complained because after that children didn't pass any comments." (P2)

# 3.2.3. Extension of learning at home

Students discussed what they did in TIP classes with parents and siblings. They helped their siblings who go to other schools in making toys. As the practitioners asked the students to make drawings and write reflections, they did it at home. This shows that students shared their learning experiences at home and found them joyful. Moreover, they continued and completed certain learning tasks at home, which they could not do in TIP class due to the paucity of time. For instance, some students made drawings and wrote their reflections at home.



```
"मम्मी को बताया क्लास में टॉयज के साथ पढ़ाई हो रही है। भाई बहनों को बताया तो उन्होंने कहा कि उनकी क्लास में तो ऐसा कुछ नहीं होता...डमरु बनाना मैंने अपनी बहन को सिखाया।" (S7) (I told my mother that we are studying with toys in the class. When I discussed this with my brothers and sisters, they said nothing like this happens in their class... I taught my sister how to make a Damru.)

"डाइट टीचर ने जब गुरुनानक के बारे में बताया तो एक टीवी बनवाया था और उसमें शैडो के थू करवाया था। उसकी स्टोरी मैंने अपने भाई बहन को सुनाई थी।" (S7)

(While discussing the topic of Guru Nanak, the DIET teacher asked us to make a TV and taught us through shadow puppets... I narrated this story to my brother and sister.)

"लखने का काम घर पर किया था और खिलौने स्कूल में बनाए थे।" (S10)

(I completed the writing task at home and made the toys in school.)
```

# 3.2.4. Teaching-learning Process

The learners engaged with toys in different forms, such as making the toys or learning the content with the help of the toys they made. They made various toys which were related to the content of the chapter. They made *Damroo*, *Dholak*, *Shivling*, Sufi caps, dresses, Chocolate, Water Tank, Superman, etc. They used clay, paper cups, newspapers, clothes, etc., in making the toys. These were provided to them by the practitioners and the school. Some of them also brought their materials from home. The objective was to use **low-cost rawmaterials** instead of buying ready-made materials from the market. Moreover, the students were encouraged to use discarded materials, fulfilling the idea of making toys from trash.

The students were **free** to make toys out of their interest. While most made it individually, some made it in pairs. Initially, the practitioners demonstrated to the students how to make toys using the given raw materials. Later they helped the students wherever they needed. The learners also helped each other in making toys.

The learners got **attached** to the toys they made. As guided by the practitioners, they assigned certain powers to their toys. They treated it as a living being. They wanted it to remain with them forever and that it should never get extinct. They wanted the toys to assist them when they needed to. To quote students-

```
"मैंनेचॉकलेटबनायाऔरयेपॉवरदीकिकभीखत्मनाहो।" (S7)

(I made chocolate and gave it the power that it is never finished)
```



''मिट्टी से शिवलिंग बनाया और ये शक्ति दिया कि ये मेरे साथ हमेशा रहे।'' (S9)

(I made a shivling with clay and gave it the power that it remains with me forever)

''मिट्टी से लड़की बनाई थी और ये शक्ति दिया कि ये मेरा सारा काम कर दे और हर काम में हेल्प करे किसी को ज़रूरत हो तो।'' (S5)

(I made a girl with clay. I gave it the power that it does all my work and helps those who are in need of any kind)





Toys prepared by students -Sufi caps, Dholak, Dumroo, and Bansuri





# 3.2.5. Quality of Learning

The teaching-learning process must remain stress-free. The learner should have a **joyful** experience in school. It has multiple benefits. It can encourage the students **toattend school regularly** and remain interested in classroom teaching and learning. The students should go home with happy memories at the end of the day. However, relying on lecture methods only makes learning monotonous and boring. Further, if they do not understand the contents clearly, they may engage in rote learning to perform well in examinations. Thus, TIP can be one of the interesting pedagogical strategies that teachers can use in their classes to make learning joyful.

TIP used by practitioners in the class gave the students a different learning experience. Students expressed their feelings about those classes in the interview. The school teachers also expressed their experiences and observations of the students.

To present here the voices of some students regarding their experience-

"अच्छा लगर हाथा। खेल के पढा और मजा भी आया।" (S2)
(It was feeling good. I learnt while playing, which I enjoyed)
"खिलौनों के साथ पढ़ने में मजा आता है क्योंकि इसमें कुछ याद नहीं करना पड़ता है। और डिफिकल्ट चीजें बहुत आसानी से समझ में आ जाती हैं।" (S 11)
(I enjoy studying with toys because I do not need to cram. And I can understand difficult topics easily.)



## To present observations of the teachers

''जॉयफुल लर्निंग का ऑब्जेक्टिव था। पहले बहुत मॉनोटोनस था। लेकिन टॉय बेस्ड पेडागोजीमें स्टूडेंट-टीचर भी कनेक्ट हो पाए।'' (T5)

(The objective was to make learning joyful. Previously, it was very monotonous, but in the toy based pedagogy, a bond developed between students and teachers)

''टॉयज जो है उसके द्वारा बच्चा अपने सभी एस्पैक्ट को शोकर रहा है। इमोशनली अपनी चीज़ को बाहर ला रहा है। उनके दिमाग में क्या चल रहा है, उसको हम समझ सकते हैं। कौनसी चीज़ बच्चा को अफेक्ट करती है, उसको आसानी से समझा जा सकता है।'' (T6)

(A child expresses all aspects of their personality while learning with toys. They bring out their emotions with the toys. We can understand what the child thinks. We can easily understand things which affect a child).

TIP created **curiosity** in the learners. They **waited** for their class. During the zero period, they expressed their anticipations about TIP class to their class teachers. Most of the students expressed their disinterest in History. They said that History was boring, and they got sleepy in class. They had to rote-learn in this subject to pass the examinations. However, **TIP also aroused the interest** of learners in History. Now, they started liking this subject. With the help of the practitioners, they integrated the toys into **role play** and engaged in a **dialogical conversation**. For instance, they took up the role of *Tukaram*, *Mirabai* and other historical characters as given in the chapter. While a couple of them played the role of these characters, others watched them with interest and **laughed** out of joy. The **classroom environment** was full of happiness.

To present teachers' observation of the students-

''क्लास का फर्स्ट पीरियड हैप्पीनेस होता है। ऐज़अक्लास टीचर उसमें मैंने ऑब्जर्व किया कि बच्चे टॉयज बना रहे थे। मैंने उनसे पूछा तो उन्होंने बताया कि SST वाली मैम ने चैप्टर करवाना है। उसके लिए वो बहुत खुश हो रहे थे। उन्होंने पपेट भी बनाया और हैप्पीनेस क्लास में ही मुझे पपेट यूज कर के दिखाया। क्लास का एंबिएंस बहुत अच्छा हो गया था और बच्चे बहुत एक्साइटिड थे।'' (T1)

(The first period is the Happiness period. In that period, as a class teacher, I observed that children were making toys. They said that the SST teacher would teach a chapter with toys. They were very happy about that. They also made a puppet and demonstrated it in front of me. The environment of the class became joyful, and the children were very excited.)

''नॉर्मल क्लास रूम प्लान में रोड मैप टीचर डिसाइड करता है बट टॉय पेडगॉजी में वेस्टूडेंट्स ऑटोनोमी को जगह दे रहे थे क्योंकि स्टूडेंट खुद रिलेट और एक्स प्लोर कर रहे थे। ट्री चैप्टर में बच्चों ने ट्री बनाया फिर क्लेमॉडलिंग से अलग चीजें बनाई जैसे स्नेक, फ्रूट। एक्सटेंशन ऑफ नॉलेज हुई।'' (T5)

(Generally the road map of the class is decided by the teacher but in toy pedagogy, they gave space to students' autonomy as they were relating and exploring on their own. In the Tree chapter, the children made a tree and different things from clay modellings, such as snakes and fruit. With these activities, their knowledge was enhanced)

To quote one of the practitioners-

''मेरे साथ अटैचमेंट हो गई थी स्टूडेंट्स की और दे सेड मैम हम वेट करते हैं, नेक्स्ट डे आप क्या बनवाओगे? उनका आपस में बिहेवियर चेंज हुआ-शेयरिंग करना, आईडिया देना और दूसरों की हेल्प करना टॉय बनाने में।'' (P1)

(The students got attached to me and they said that they wait for my class in the anticipation of what I would ask them to create the next day. Their behaviour towards each other changed; they started sharing, giving ideas and helping others in making toys.)

Students' experience in school should be such that it leads to a **holistic development** of their personality. They should come out of school not only with an **ignited mind** but also as a more humane individual having **sensitivity** towards fellow human beings. TIP has the potential to develop these qualities in learners.

Lecture methods of teaching and learning tend to be monologues, in which the teacher speaks most of the time. The students are mere listeners and speak only when teachers ask them to respond. They do not get enough opportunities to develop the different aspects of their personality. Students can get the **opportunity** to develop their personalities if they are engaged in different innovative ways. Toy Integrated Pedagogy can provide that space for students to express themselves and develop their personalities.

In TIP, the learners **worked in a group** of around seven students. These groups were **mixed**. It had Level 1 (whose academic performance was not as expected) as well as other students. In toy-making, they helped each other. Further, they took the initiative to share materials or ideas. When the practitioners asked them to write their understanding, those who struggled to write were helped by their peers. Later, they attempted to write. They were no longer fearful of 'bad performance'. They were becoming **confident individuals**. The students who used to be shy and silent earlier began speaking and became **active** in the group. Some of them also assumed **leadership roles**.

# 3.2.6. Extension of TIP to other disciplines

The practitioners taught History to the students with TIP. The students were asked if they would want to study History like this in the eighth class as well. Almost all students said that they would like to study with the help of toys. They were also asked what subjects they would like to study with TIP. Most of the students



said that they want to study **Science** with toys. Some said they would like to study **Hindi and English** as well with toys. However, only a few students wanted to study **Mathematics** with toys. The reason they want to study with TIP is that it **helps in understanding difficult subjects easily**.

"कुछ सब्जेक्ट जैसे हिंदी और मैथ्स में टॉयज इतना काम नहीं आएंगे, पर साइंस हम टॉयज के साथ कर सकते हैं क्यों कि साइंस इतनी समझ नहीं आती।" (S2)

(Toys will not be of much use in some subjects like Hindi and Maths, but we can do science with toys because we don't understand Science easily.)

Some teachers had attended the workshop on TIP. They also tried to include TIP in the classroom. In the English classroom, students were taught with puppets and role play. To quote the teacher-

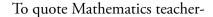
''गोपाल एंड हिलसा-फिश में हमने स्टिक पपेट्स एंड फिंगर पपेट्स यूज किए, रोल प्लेकेथ्रू चैप्टर एक्सटेंड किया। उसका असर अब एग्जाम मेंनजर आया क्योंकि पपेट और रोल प्लेकेथ्रू चैप्टर थौरोलीकिया।''

(In Gopal and Hilsa-fish, we used stick puppets and finger puppets and studied the chapter through role play. Its effect is now visible in the exam because we did the chapter thoroughly through puppet and role play.)

In the Hindi classroom, the teacher engaged the students in story weaving and mimicry with the help of the puppets. To quote the teacher-

> "आपकी ट्रेनिंग के बाद स्टोरी वी विंगस्टार्ट हुई, स्टोरी लिखवाई। उनकी ग्रामेटिकल एरर कम हुए उससे ... मैंनेस्टार्टिंगलाइनदेदी , उसके बाद बच्चों ने बनाई ऑन दस्पॉट... कैरेक्टर की जगह पपेटयूज़ करें उनकी मिमिक्री करवाई।"

(After your training, story weaving was started in the class, students wrote stories. Their grammatical errors got reduced due to this. I gave the starting line after that children created stories promptly. Puppets were used to represent the characters, and children did mimicry of the characters.)



''मैथ्स से बहुत भागते हैं बच्चे तो ऐसे एक टास्क होता है कि कैसे उसे इंटरेस्टिंग बनाया जाए। मैं उसे बुकिश लैंग्वेज मेंन हीं सिखाती, रियल लाइफ से रिलेटे करती हूं – जैसे प्लस- माइन सब ताने के लिए मार्केट से कुछ खरीदेंगे तो कितने पैसे बचे , उस तरीके से बताती हूं, उसके बाद बुकिश लैंग्वेज यूज करती हूं। और मैंने टॉय बना कर लाने के लिए कहा। बच्चे डाइस बना कर लाए , उससे औड-इवन, प्राइम नंबर का कां सेप्टिक्लियर करा। एक बच्चा व्हील बना कर लाया , उसे घुमाने से जो नंबर आया, उससे मल्टीपल और फैक्टर्स बताया। कुछ कॉन्सेप्ट्स मैंने टॉय पेडागोजी से कराया।''

(Children are scared of Mathematics, so it's a task for teachers to make it interesting, I don't teach Maths in bookish language. I relate it to real life. For example, to teach addition and subtraction, first, I ask them how much money is left if they buy something from the market; then, I explain it to them in the language of the book. I asked them to make and bring toys. Children brought dice with which I explained the concept of odd and even numbers; and prime numbers. One child made and brought a wheel; I explained multiple factors by the number that came out by rotating it. I also taught some concepts using toy pedagogy)

Though Mathematics is difficult, the teacher did try to teach with TIP so that they understand the concepts easily, even when very few students said that they wanted to study Mathematics with toys. The reason that the students could not recognise TIP used by the teacher in the class is that they, perhaps, didn't find learning Mathematics with toys as playful as in History, English and Hindi.

The Science teacher did engage students in some activities as well. Students brought some material from home to learn the concepts. However, toys were not used in learning. To quote the Science teacher-

''जैसे मैंने एसिड एंड बेसेस पढ़ाने के लिए हल्दी वाला पानी लाने को बोला तो वो मैनेज कर के स्कूल मेंले आए... साइंस फेयर में भी छोटे इंजन बनाए जो हमने डिस्प्ले पर लगाए।'' (For teaching acid and base, I asked them to bring turmeric water. They managed to

(For teaching acid and base, I asked them to bring turmeric water. They managed to bring it to the school... They made small engines for the science fair, which we put on display.)

The teacher tried to teach the concepts of Science with materials that they found in the surrounding. For instance, they learnt the concept of Acids and Bases using turmeric, which is easily available at home. They also made toys such as engines for the Science fair. However, even after teaching like this, most students find Science difficult. The reasons could be that they didn't find it as playful as in History, English and Hindi, or they were not as immersed in the toy-making process, or they could not relate toys with the concepts of Science. It would require an in-depth study of the process to draw any conclusions.

From the above analysis, two questions emerge. First, what appropriate pedagogical strategies to be adopted so that learners find Science and Mathematics easier to understand? Second, Is TIP as effective in Science and Mathematics as in History, English and Hindi? These questions could be a matter of further research.



### 3.2.7. Teachers' Attitude towards TIP

A workshop an orientation programme was organised by the practitioners and DIET teachers ifor the regular teachers of the school. Some teachers participated in these programmes.

The Head of the School, Academic Coordinator and other teachers **welcomed the initiatives** and gave space to the practitioners to engage students with the new approach. They also knew how they could use TIP in their classes. The teachers acknowledged that there are some challenges with TIP like time constraints, but despite of it, they were **willing** to use it in their classes as it benefits the students. Moreover, **teachers enjoy TIP** as **students are responsive** in the classroom (T1, T2). Further, almost all teachers feel that TIP should be used **up to class 8**th. The reason for not extending TIP to secondary classes is that grown-up students may not take an interest in it (T6). Further, there is a compulsory vocational subject for students in secondary classes, so it may not be feasible to use TIP there (T3).

''कोई भी नया इनीशिएटिव होता है स्कूल के लिए तो मैंना नहीं करती। और हमारे स्कूल में अभी फैसिलिटी है, टीचर और मैन पॉवर है।'' (प्रिंसिपल)

(If there is any new initiative for the school, I do not say no to it. And the facilities are there in our school. We have teachers and manpower.)

''जब इंस्ट्रूमेंट यूज़ हुए तब मुझे लगा कि मैं उसे मैथ्स से रिलेट कर सकती हूं। जैसे सितार- उससे हम शेप्स, लेंथ, सर कम्फ्रेंस, एरिया, आदि सिखा सकते हैं।'' (मैथ टीचर)

(When the instruments were used, I felt that I could relate it to maths. For example, with Sitar we can teach shapes, length, circumference, area, etc.)

"एक अकादिमक समन्वयक के रूप में, मैं योजना बनाऊंगी कि इसका उपयोग कर के अन्य विषयों को कैसे किया जा सकता है और हम आने वाले सत्र से कैसे जारी रख सकते हैं।"

"As an academic coordinator, I will plan how other subjects can be done using this and how we may continue from the coming session." (Academic coordinator)

# 3.2.8. Limitations and Challenges of TIP

The teachers and practitioners have highlighted some challenges and limitations that they find in the implementation of TIP. **Time** constraint due to the pressure to complete the syllabus is a major concern for the teachers (T1, T3). Apart from the syllabus, the school has to organise functions like Annual functions and Sports day. Besides, TIP may **overburden the teachers** (P1) as they are already preoccupied with duties at school. Further, some **Parents** have concerns that children demand resources to make toys (T1, P1).

As the existing pedagogies have limitations, TIP also has some limitations. One pedagogical method cannot be equally effective for every child, given their background (T6). It can't be used in every class (T2). Further, TIP should not become an "orthodox" pedagogy (P2). It should be used in such a way that it keeps students' interest in learning alive. Moreover, TIP should use books as an aid so that the reading skills oflearners also improve (P1).

# 3.2.9. Suggestions for implementation of TIP

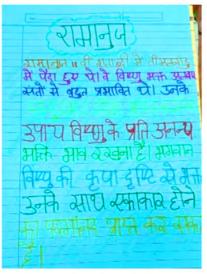
The teachers and practitioners have given suggestions to overcome the challenges and create awareness about TIP. Since content teaching is also important along with toy making in TIP, there should be a **balance** between time devoted to toy making and content teaching (P1). As all topics can't be taught with TIP, the teachers should have the **autonomy** to choose which topic to be taught using TIP (P1). Almost all students have said that TIP should be used in the topics which are difficult for them. Thus, teachers and students together can decide when to use TIP.

At the school level, discussing TIP with teachers in **faculty meeting**s will spread awareness about TIP (T3, T5). **Resources** for making toys can be made available from the school funds (T3). Further, the concept "from trash to toy" should remain pivotal in TIP (T5). Discussing the importance of TIP with parents in the **Parents Teacher Meetings** would resolve their concerns (T 3). TIP should be included in the **preservice teacher development curriculum**. For in-service teachers, **workshops** on TIP can be organised. (T5)

# 3.3 Analysis and Findings of Assessments

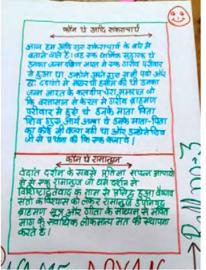
Assessment is an indispensable part of learning. Assessments should be used to make the learning process more meaningful. When we try to understand the nature of assessment in Toys-integrated Learning, the learners' reflections become perennial. Perusing the reflections highlighted a common pattern in the children's responses. For instance, one child wrote about his experiences whereby he expressed immense joy and was elated while making *dholak* from paper. He also recalled some prior memories related to that task. The above statement indicates how toys could establish a lost connection or linkage that we often feel in traditional classrooms. Hence, this type of learning curtailed the gap between a joyful experience and the learning process. The intent of these assessment tasks was not to gauge what learning has been achieved, but to gauge how we can help students engage with the content better so that the learning achieved stays with them and becomes an integral part of their lives.

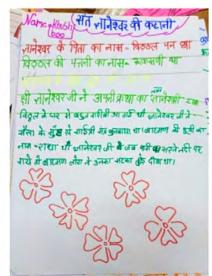
















Such an analysis of the reflection brought into the picture a few more interesting observations. It was found that the learners showcased critical understanding regarding some metaphysical concepts in history and shared their knowledge regarding "Attachment to God" What is God? Who was AdiShankaracharya, Ramanuja, Tukaram and Saint Dnyaneshwar? When asked what they understand by God, Students drew a range of analogies that implied lofty ideas that had socio-religious and metaphysical underpinnings. Some students identified the idea of god to that of a mother, while some others understood god as one omnipotent, omnipresent and omniscient power who created the world (see figure). This reflects their venturing into the realm of metaphysical ideas as well as their ability to connect their school knowledge with their real life. This linking of ideas with their real life also paved the way for expression of the self. The self found some space in the content of school beyond the rigid ideas of the correct answer based on the contents of the book in any traditional classroom.

According to Rabindranath Tagore, the best of toys are innately incomplete and that a child completes them with participation. Toys modified the traditional assessment method in integrated teaching that burdens the children. In TIP, there was no place for assessment that considers rote learning and bookish knowledge as the best, all assessment was conducted with an intent to enhance learning. It touched on all dimensions of personality. During the classroom practice, it was easily observed that learning involved collaboration rather than comparison. While making the toy, the children were also evaluating themselves and encouraging their classmate's work. This reflects student autonomy and their ability to self-assess and self-direct their own learning. This approach made them an active participant and stakeholder in their own learning processes. The scope of assessment of children in Toy integration pedagogy touches all dimensions of personality.

One can conclude that experiential learning happens when students are exposed to particular experiences—such as toys, games, projects, crafts, etc.—followed by reflection, critical analysis, and synthesis. Learners take the initiative, make choices, and take responsibility for the outcomes during this process.

Cooperative and experiential learning in Toy-Integrated pedagogy classroom.







# Conclusions

# Conclusions

# Objective 1: To develop toy-integrated plans

Toy-Integrated pedagogy is a relatively new idea. The practice of toy-based pedagogy cannot be spontaneous but requires planning and judgement of the teachers and practitioners. Questions such as which topics or chapters could be transacted using TIP? What toys to be used? Should the entire lesson be staught using TP or particular section? What would be the assessment tasks? These require careful considerations before one adopts TIP. Along with these, a nuanced understanding and skilled practice of TIP is a must. In the present study as well, for this objective, plans were made for class 7 to teach History and English. These plans are attached as Annexure 5.

# Objective 2: To demonstrate how their use could make the class more engaging.

It was found that the students could **relate** the toys and content to their everyday lives. For example, they could relate to the socio-cultural aspects of Sufism. They also shared their experiences as they had seen people around them wear this kind of cap. They were able to co-relate the topic to their real life and also asked some interesting questions: "why is Sufi dress so flary?" which was followed by a class discussion. They also developed an understanding of the difference between Sufi dance and Bollywood dance. To the music of the xylophone, the students related to the divinity of the sound of the bell in hindu temples that they hear around them in their day-to-day life. Students also gave very beautiful examples related to similar sounds, like cartoons, doorbells, and cycle bells. The students showed the positive involvement that the facilitator wanted in the exercise.

The students inculcated their **creativity** into making the cap; a few craft objects were provided to make a flute and *dumroo* side-by-side, and the topic was also discussed. All the students actively participated, and the craft they made showed their creativity and made some nice *dumroos* and flutes. The teacher helped the students wherever they got stuck, but most could make the toys independently. Students constructed various toys under this topic to develop a deeper understanding of the topic, alongside which they also showed their **creative expression** in the process. During the construction of the Sufi dress, students used various designs and colours of their choice. While making the Sufi cap and Sufi dress, they used their unique ideas and designs. It depicts their artistic vision. Some students showed a developed understanding and expression of creativity and art.

They thoroughly **enjoyed** the activity, and the level of participation was more than usual. A few unique responses and observations of the students were recorded. Most of the students were able to integrate the activity with the ongoing topic and contributed to the class discussion. When the teacher asked them to

draw pictures of trees in their notebooks, students enjoyed drawing and also placed a variety of objects and scenes, as mentioned in the poems, around and on the trees like- Birds, Tree-house, children, tea party, kites, fruits etc. All the students painted a lovely picture of a tree in their notebooks. Students were **excited** to work with clay and made beautiful toys of clay modelling. They made chocolates, tables, flowers, snakes, birds, pandas, and kites, and out of joy, placed them all in a plant (Tree) to make it a real-life experience. Students who were initially inactive and shy also started enjoying drawing and also responded to the questions asked.

Students who were generally not interested in studying also showed **interest** in toy construction. Students who were not showing responsibility or interest towards academics, after some exposure to toy-integrated pedagogy, started to take some interest in the class, which was a noteworthy. Students tried to focus on the class activity and make themselves more communicative. Students were divided into groups in which a group discussion took place where they expressed their understanding of the topic. Also, if any student had a doubt or question, it was answered by a fellow student.

# Objective 3: To improve students' sensitivity to the social context of society.

The students could also differentiate between the **cultural practices** at their home and those of the Sufi's. This objective was achieved through group and class discussions where the students could express their viewpoints. They also listed some examples where they have observed Islam and Sufi culture around them. They were able to highlight the main features of Sufism. After the completion of toy-making, the students were asked their views on how the toy is related to our topic and what do they understand or think when they see that particular toy.

Through the construction of various toys, the topic of Sufism was better understood by the students. Those who were previously not interested in studying were usually lost in the class, and do not give responses, were also **actively engaged** in making toys. Now they were at least making toys and were actively listening in the class. Some others showed a gradual improvement in the level of participation and responses. The students were given room for brainstorming, and they reflected a wide variety of views on *Sufism*. Most students actively participated in the dance activity, which depicted their emotional engagement with the topic. The response in the class was very notable because all students actively participated and shared some good examples on the topic and also participateded in dialogues and discussions, the teacher with all his storytelling capability, connected with the inner emotions of the students and succeed in creating a bond between himself and students, which was itself a notable factor.

# Objective 4: To delineate the nature of learning promoted by toy-integrated pedagogy

Students were able to **self-assess** their learning and understanding. In this way, their gap in concept formation was also identified. The students could identify their strengths and weaknnesses. For example, some students could not recall the key features, but their understanding of the sociocultural aspect of

Sufism was much clearer which was also the main point of discussion, in which they could reflect on the ethos and situations that led to the emergence of Sufism. Students were divided into groups of 6-7, and they performed a few steps of the Sufi dance. They thoroughly enjoyed the activity, and the level of participation was more than usual.

Through these activities and observations, one can say that the students who were not interested in studying also showed interest in the construction of the toy. The students' overall interest in the class was enhanced because of the craft and the toy. During class discussions where the students were able to express their viewpoints. They also listed some examples where they observed Islam and Sufi culture around them. They were able to highlight the main features of Sufism.

Regular **oral questioning** was also conducted throughout the teaching of the topic, and a difference in students' responses was observed from the first class to the last class. During the classes, students also asked their doubts and questions, which were being answered right there either by fellow students or by the teacher. Students were interactive during oral questioning and presented their views.

To summarise, toy-integrated pedagogy is an innovative pedagogical strategy in which teachers use various activities centred around toys for teaching of the content. The learners make toys themselves with the help of peers and teachers. Toys could be made using easily available raw materials like clay, paper, and cloth. In TIP, students' learning happens throughout the process of making the toys and during the content teaching with activities centred around toys. The activities could be role play, drama, storytelling, singing, dance, music, playing with puppets, etc.

Teaching learning becomes monotonous when learners do not participate in the whole process actively. This affects their learning as well as overall personality development. TIP has the potential to break the monotony of the classroom. This is evident from the research findings.

TIP leads learning to shift from rote based to engaging and constructive. The difficult concepts become easier to understand. It creates learning sparks in the students. They start taking an interest in subjects which used to be boring for them. It ignites their mind. They become curious about the activities and wait for the teachers to come and teach. The students who are usually shy also start speaking in the class. Those who were not so confident in writing also attempted to write.

TIP helps not only in the learners' development in the academic domain but also in their holistic development. They learn the social skills of cooperation and collaboration when they work in groups. Students also take the initiative on their own to help others. Leadership quality can be seen in them. The level of communication among the students; and between teachers and students increase. In such classes, students feel confident in approaching the teachers. The bond between teachers and students strengthens. The teachers also enjoy teaching. Teachers and students both laugh. The environment of the classroom turns joyfully engaging. The distance between teachers and students decreases. This is a sign of

the classroom becoming democratic.

Further, students with different levels of learning competencies cooperate with each other. As the learners' mutual interaction increases, they become sensitive towards their peers. It is easier for teachers to to discuss sensitive issues with students and students understand not to use stereotypical disrespectful language towards their peers. It seems that the classroom is moving towards an inclusive classroom. The strict gender separations between the male and female students also reduce.

TIP provides an opportunity to bring out the creativity of the learner. It also gives a space where they can express their emotions and experience joy and are relatively autonomous and accountable. They are free to make toys of their own choice. They are attached to the toys that they make. They want it to remain with them forever.

There are challenges with TIP, such as time constraints, availability of resources and parents' concerns. However, these challenges can be dealt with the intermittent use of TIP for teaching-learning of the topics mutually decided by the students and teachers; intelligent use of resources and making parents aware of its importance.

Further, TIP can be included in the pre-service teacher development curriculum, so that future teachers can use it proactively. Schools may create a 'Toy Library or a Toy Room' so that the children may be aware of their own indigenous culture and values and understand the scientific principles behind them. To generate awareness among in-service teachers, workshops on TIP can be conducted for them occasionally. This will help in promoting TIP to more and more schools.

# References

Arora, R. (2020). Learning with toys: More fun and creativity. *The New Indian Express*. Retrieved December 24. 2021 From https://www.newindianexpress.com/cities/delhi/2020/sep/04/learning-with-toys-more-funand-creativity-2192148.html

Cardoz, T. (2022). Putting Joy of Learning Back into Education Through Play, Says Tracy Cardoz. Edugraph. *The Telegraph India*. Retrieved from https://www.telegraphindia.com/edugraph/career/putting-joy-of-learning-back-into-education-through-play-says-tracy-cardoz/cid/1900749

Chandra, R. (2021). Indigenous Indian Toys: The repository for traditional wisdom, cultural heritage and a global economic opportunity. *Academia Letters*, Article530. https://doi.org/10.20935/AL530

Douladeli, E. (2014). Experiential Education through Project Based Learning. *Procedia - Social and Behavioral Sciences*, 152, 1256-1260. https://doi.org/10.1016/j.sbspro.2014.09.362

Kara, N. & Cagiltay, K. (2020). Smart toys for preschool children: A design and development research, Electronic Commerce Research and Applications, Volume 39. https://doi.org/10.1016/j.elerap.2019.100909

NCERT. (2022). Toy-Based Pedagogy. National Council of Educational Research and Training.

NCERT. (n.d.). Course 12: Toy-Based Pedagogy for Foundational Stage, *Learning Resources*. ITPD NCERT. https://itpd.ncert.gov.in/course/view.php?id=1692&section=12

NCF. (2005). *National Curriculum Framework 2005*. National Council of Educational Research and Training. https://ncert.nic.in/pdf/publication/ncf2005.pdf

NCF-FS. (2022). *National Curriculum Framework for Foundational Stage (NCF-FS) 2022*. National Council of Educational Research and Training. https://ncert.nic.in/pdf/NCF\_for\_Foundational\_Stage\_20\_October\_2022.pdf

NEP (2020). *National Education Policy 2020*. Ministry of Education, Government of India. Retrieved from https://www.education.gov.in/sites/upload\_files/mhrd/files/NEP\_Final\_English\_0.pdf

Rana, R., &Yadav, P. (2023) Toy-integrated Pedagogy Helps to Develop Positive Mathematical Beliefs at Elementary Level. Retrieved From https://www.researchgate.net/profile/Pushpendra-Yadav-11/publication/368839889\_Toy\_Integrated\_Pedagogy\_Helps\_to\_Develop\_Positive\_Mathematical\_Beliefs\_at\_Elementary\_Level/links/63fce7a60cf1030a5657de7b/Toy-Integrated-Pedagogy-Helps-to-Develop-Positive-Mathematical-Beliefs-at-Elementary-Level.pdf

Sirinterlikci, A., Zane, L., &Sirinterlikci, A. L. (2009). Active learning through toy design and development. *Journal of Technology Studies*, 35(2), 14-22. Retrieved from https://www.jstor.org/stable/pdf/jtechstud.35.2.14.pdf?casa\_token=80hqLbo69gkAAAAA:qDmN5B\_797xZCtszCbocDMaUzRe8ret

AvXuNO8scBGDGQqchoshhj0tlb0i3QzLozmueVBwogVRTGJ4wI4S3vzzvtaCdCuQFcl5MF3WQUTLotHw4mzFD

Sudhir, P. (2021). *Toy Based Pedagogy-The Concept* [Video]. Youtube, [NISHTHA Official], Retrieved From https://www.youtube.com/watch?v=go3LDUAkY30

State Council of Educational Research and Training. (2022). *Learning with Toys*. State Council of Educational Research and Training.

# Annexure

# Annexure

# Annexure A: I -Interview schedule for students

- 1. How do you feel sitting in history classes? आपको इतिहास की कक्षाओं में बैठना कैसा महसूस होता है?
- 2. Apart from your subject teacher, has anyone else ever come to teach you History? आपके विषय-अध्यापक के अलावा क्या आपको इतिहास पढाने कभी कोई और भी आया है?
- 3. What lesson did he teach you? उन्होंने आपको कौन-सा पाठ पढाया?
- 4. What did you do while reading the text? आपने इस पाठ को पढ़ने के दौरान क्या-क्या किया?
- 5. Have you made toys too? क्या आपने भी खिलौने बनाए?
- 6. How was the process of making the toys for you? खिलौने बनाने की प्रकिया आपके लिए कैसी थी?
- 7. What were the teachers doing in the class while you were making the toys? आपके खिलौने बनाते समय कक्षा में अध्यापक क्या कर रहे थे?
- 8. How do you like making toys? खिलौने बनाना आप को कैसा लगा?
- 9. Did you make the toys alone or took someone's help? क्या आपने खिलौनें अकेले बनाए या किसी का सहयोग लिया?

- 10. What did you learn from this lesson? इस पाठ से आपने क्या सीखा?
- 11. Do you notice any difference between the classes in this lesson and the other classes in history? क्या आपने इस पाठ की कक्षा ओं में और इतिहास की अन्य कक्षा ओं में कोई अंतर पाया?
- 12. Would you like your other history classes to be taught like this? क्या आप चाहेंगे कि आप की अन्य इतिहास की कक्षाऐं भी ऐसे ही पढाई जाएँ?

# **Annexure II: Interview Schedule For Teachers**

- 1. How is your experience of the classes in general? सामान्यतःकक्षाओं का आपका अनुभव कैसा रहता है?
- 2. Are your students active and engaged in class? What is the reason for this according to you? क्या आप के छात्र कक्षाओं में क्रियाशील एवं संलग्न रहते हैं? इसका कारण आप के अनुसार क्या है?
- 3. What do you do to keep students active and engaged and why? आप छात्रों को क्रियाशील एवं संलग्न रखने के लिए क्या करते हैं और क्यों?
- 4. Were you already familiar with toy-based pedagogy or would you like to be told by an expert? खिलौना आधारित शिक्षण शास्त्र से क्या आप पहले से परिचित थे या आप को विशेषज्ञ द्वारा बताए जाने पर इसके बारे में पता चला?
- 5. Did you notice any difference in the expert's description and your understanding if you were already familiar with it? If yes, what were those differences? यदि आप पहले से परिचित थे तो क्या विशेषज्ञ के विवरण में और अपनी समझ में आपने कोई अंतर पाया? यदि हाँ तो वह अंतर क्या थे?
- 6. Why did you decide to use this teaching method in your classroom? आप यह शिक्षण विधि अपनी कक्षा में प्रयोग करने के लिए क्यों मान गये?
- 7. What kind of advice was given to you by the expert? विशेषज्ञ ने आप को किस तरह की सलाह दी?
- 8. What kind of preparations did you make for teaching this class? इस कक्षा को पढ़ाने के लिए आपने किस तरह की तैयारी की?
- 9. What kind of problems did you come across during this in-class exercise? कक्षा में इस अभ्यास के दौरान आप को किस तरह की समस्याएँ आई?

- 10. Did you give the students suggestions/instructions for making the toy before class? क्या आपने कक्षा से पहले विद्यार्थियों को खिलौना बनाने के सुझाव/निर्देश दिए थे?
- 11. Did you notice any difference in the classroom due to having toys in the classroom? if so what is the difference?
  क्या आपने कक्षा में खिलौने होने के कारण कक्षा में कोई अंतर देखा? यदि ऐसा है तो क्या अंतर है?
- 12. Did you feel this difference in the next classes also in which you did not use this method? क्या आपने यह अन्तर अगली कक्षाओं में भी महसूस किया जिनमें आपने इस विधि का प्रयोग नहीं किया था?
- 13. What is your opinion on the subject concept of this method under teaching learning process? शिक्षण अधिगम प्रक्रिया के अंतर्गत इस पद्धति की विषय अवधारणा पर आप की क्या राय है?
- 14. Do you think this method can be used in teaching other subjects also? क्या आप को लगता है कि इस विधि का उपयोग अन्य विषयों को पढ़ाने में भी किया जा सकता है?
- 15. After classroom practice, what is your concept about toy based teaching method now? कक्षा अभ्यास के बाद, अब खिलौना आधारित शिक्षण पद्धति के बारे में आप की क्या अवधारणा है?

# **Annexure III: Interview Schedule for Practitioners**

- 1. What is your understanding of Toy-Integrated Teaching Method? खिलौना-आधारित शिक्षण विधि की आप की समझ क्या है?
- What do you mean by "Toy" in toy-integrated pedagogy method? 2. खिलौना आधारित शिक्षण विधि में आपका "खिलौना" से क्या तात्पर्य है?
- 3. What is it about the toy-integrated teaching method that makes you choose it over all other teaching methods? खिलौना-आधारित शिक्षण विधि में एसा क्या है जो आपने अन्य सभी शिक्षण विधियों के स्थान पर इसे चुना?
- What was your objective behind planning this teaching method? 4. इस शिक्षण विधि की योजना बनाने के पीछे आप का उद्देश्य क्या था?
- What are the ways toy-integrated teaching method can be used? 5. खिलौना आधारित शिक्षण विधि को प्रयोग कर ने के कौन से तरीक़े हो सकतें हैं?
- 6. What aspects of the teaching methodology did you focus on while making this plan? Why? यह योजना बनाते समय आपने शिक्षण विधि के किस बिंदु पर ध्यान केंद्रित रखा? क्यों?
- 7. On what basis did you choose the subjects? आपने विषयों का चनाव किस आधार पर किया?
- 8. Can this scheme be applicable in other subjects or other schools also? Why? क्या यह योजना अन्य विषयों या अन्य विद्यालयों में भी लागू हो सकती हैं? क्यों?
- What instructions have you given to the teachers related to the toy-integrated Pedagogy method? 9. आपने खिलौना आधारित शिक्षण विधि से संबंधित शिक्षकों को क्या निर्देश दिए?

- 10. Did you give any specific suggestion to the teachers regarding the process of making toys? Why? क्या खिलौना बनाने की क्रिया को लेकर आपने अध्यापकों को कोई विशेष सुझाव दिए? क्यों?
- 11. Have you personally taken part in the implementation of this method by visiting the classes? क्या आपने स्वयं कक्षाओं में जा कर इस विधि के कार्यान्वयन में हिस्सा लिया? 1
- 12. If yes then why you need to go to the class even after the teachers have taken the class यदि हाँ तो अध्यापकों के द्वारा कक्षा लिए जाने के बाद भी आप को कक्षा में जाने की आवश्यकता क्यों पड़ी?
- 13. To what extent were you successful in achieving your objectives? आप अपने उद्देश्यों को प्राप्त कर ने में किस हद तक सफल रह?

# Annexure B: Observation Schedule For classroom

Instruc	ctor:
Conte	nt:
Date:	
Class:	
Format	t(s):
a.	Lecture
b.	Small Group
c.	Interactive
d.	Other
a.	Content
	Exhibits clarity of the objective as per the present stage of the learners
	Exhibits correct knowledge of the content
	Selected an appropriate chunk of content for the lesson as per the students' needs
	Selected examples/ illustrations / real-world applications/ analogies relevant to the course content and student experiences
<b>b.</b>	Teaching methods
	Did the instructor get the attention of learners on the topic? If so, how?
	A stimulating question and narrated any experience/anecdote using toys and puppets other



Were the directions and process of work clearly explained?

\_\_\_\_\_

Did the instructor use appropriate instructional supports (videos, slides, charts, puppets, toys ) effectively?

How teachers/students were using toys, and puppets while learning (effectively or only as a thing) scope for creating things with hands/ making of toys or some materials by hands

\_\_\_\_\_

Moved among students to check progress, understanding, and involvement and to give assistance during individual or group work

\_\_\_\_\_

Recognized and responded effectively to changes in student attentiveness.

Did the instructor modify the instruction (giving hints, using different words and examples, reteaching) to suit the current need of the learner

# Questioning

- 1. What kinds of questions were asked? Open/closed/leading/probing
- 2. Were the students given 'wait time' to think during questioning?
- 3. What was the nature of the instructor's response?
  - a. judgmental
  - b. Exploratory
  - c. Appreciative
  - d. Constructive
  - e. Exploratory
  - f. Appreciative





- 4. Does the instructor effectively conclude the lesson?
  - a. Summarized
  - b. left students to do the rest left portion
  - c. Left students with some creative tasks related to lesson
  - d. Left questions for the students to explore or ponder over

#### d. Classroom climate and student culture (affective domain)

Does the teacher address the students by their names and personalizes her response?

Does the teacher invite participation by non-contributing students?

Does the teacher respond positively to and build on incorrect answers? (by restating, prompting, exemplifying, asking a directed question, inquiring etc.)

Did the instructor exhibit comfortable and non-threatening body language?

Initiated ideas for celebration of learning

Provided opportunities for peer feedback

Invited feedback on own teaching from the students

Any other		
,		
narrative notes_		 

### Annexure C: Sample Lesson Plans

## **Toy Integrated Pedagogy Grade 7 Social Science**

#### Chapter 8:- Devotional Path To God

Day	Topics
1	Concept of God and Discussion on Caste
2	Conceptualising Bhakti Movement
3	Viewing Society from the eyes of naynars and Alwars

#### Day 1

- The teacher would make the student look that the Clay with divinity angel where he would talk about the importance of clay in day-to-day life and the soil as a creation. Once that gets established, he would ask the students to make something that what would be divine for them, it can be a figure or a shape.
- Once this modelling is done the teacher would ask the students to tell what are the features that they want to have in their models they have made.
- For Teacher will have a discussion with the students about the thoughts that the students have when they hear the word "caste".
- Play a small skit with 5-6 students.

#### Day 2

- The teacher would interact with the student on the concept of "God" and "Caste that they have understood in the previous class.
- The students would be introduced a Kaleidoscope and would be asked to make one.
- Once that is made the students would be asked to look through it and see the pattern formations
- The teacher would make them the understand the terms "worldly pleasure" and "nirvana" with respect to kaleidoscope.

#### Day 3

- The students would be asked to make a Damru and a flute. (Symbolising Shiva and Vishnu)
- The teacher would ask the students about the characteristics of the sound of Damru and of the flute. It should be a two ways conversation.
- The workshop would end with the conversation to establish the importance of the Bhakti Cult.

## **Toy Integrated Pedagogy Grade 7 Social Science**

#### Chapter 8: - Devotional Path To God

#### Day 1

- The teacher would make the student look at the Clay with a divinity angel where he would talk about the importance of clay in day-to-day life and the soil as a creation. Once that gets established, he would ask the students to make something that would be divine for them, it can be a figure or a shape.
- Once this modelling is done the teacher would ask the students to tell what features they want to have in the models they have made.
- Fracher will have a discussion with the students about the thoughts that the students have when they hear the word "caste".

**Objective:** - to pose and probe a message about the divine existence of the supreme God as preached by the bhakti movement saints.

Part of Session	Description		
Opening/ Sparking the readiness: Suggested Time: - 5 mins	With the music of xylophone and the students are asked to keep their eyes closed.		
Conversation exercise/ igniting interaction Suggested Time: -15 mins	They would be asked about how they got familiar with the sound, and about the energy that they feel when they visit the shrine.		
Crafting of toy Suggested Time: - 20 mins	Clay is introduced to the students, interrogated about the importance of clay, and provided clay to make any figure they desire.		
Describing the Toy Suggested Time: - 10 mins	The power they want their Figures/ models to have and the reason for their thought.  How do you think this can be different  Why did you make this particular idol  What inspired you to make this toy?		

# Contextualising with content Suggested Time: - 15

Idea of Supreme God and the reason for the ignition of the bhakti movement.

- What do you think God does for you?
- Did you ask God for good marks in your exam?
- Are you afraid of God?
- Is God present everywhere?
- Ghantibajane se kyabhagwansuntehai?



# **Toy Integrated Pedagogy Grade 7 Social Science**

#### Chapter 8: - Devotional Path To God

#### Day 2

**Objective:** - to pose and probe messages about Caste System and the Hindu Spiritual texts.

Part of Session	Description
Opening/ Sparking the readiness: Suggested Time: - 5 mins	A small peaceful meditation to calm their mind and have a fresh start.
Conversation exercise/ igniting interaction  Suggested Time: -15 mins	The students would be divided in a group and shall be given a sheet where they would write their views on caste.
Crafting of toy Suggested Time: - 20 mins	Each student would be given a blank sheet and one crayon to write words like "RIG Veda", "puranas" and Bhagwat Gita.
Describing the Toy Suggested Time: - 10 mins	The students would be asked what they understand when they have the words they have written in the paper.
Contextualising with content Suggested Time: - 15	The teacher would make the students conceptualise the caste system and the importance of holy scripture.

# Toy Integrated Pedagogy Class 7 Social Science

### Chapter 8: - Devotional Path To God

#### Subtopic- Islam and Sufism

**Date:**- 30/01/23

Objective: - to prose and probe the message about Islam and Sufism

Part of Session	Description
Opening/ Sparking the readiness: Suggested Time: - 5 mins	Using audio aid, students are made to listen to Sufi songs and music to develop a connection to the topic.
Conversation exercise/ igniting interaction Suggested Time: -15 mins	The students are asked questions to provoke their thought process. Then the students are asked to make a Sufi cap.
Crafting of toy Suggested Time: - 20 mins	Each student would be asked to make a Sufi cap. The teacher gives the material and step-by-step instructions, and the students get a chance to explore their creative side.
Contextualising with content Suggested Time: - 15	The teacher would make the students conceptualise the features of Islam and Sufism and the great Sufis.
Extension of knowledge	Students became familiar with the social aspects of Sufism with the help of a Sufi cap.
Assessing competencies	Assessment was done orally during the class as a part of formative assessment.

# **Toy Integrated Pedagogy Class 7 Social Science**

Chapter 8: - Devotional Path To God

**Date:**- 31/01/23

Objective:- to prose and probe the message about Islam and Sufism

Part of Session	Description		
Opening/ Sparking the readiness:	Students connect their previous knowledge of the topic to the current interaction.		
Conversation exercise/ igniting interaction	Students will be divided into small groups in which they perform some Sufi dance steps to develop a deeper connection to the sociocultural aspect of Sufism.  Then the students are asked to make a Sufi dress.		
Crafting of toys	All students are asked to make a Sufi dress. The materials and step-by-step instructions will be provided. Students make unique dresses and explore their creative side.		
Contextualising with content Suggested Time: - 15	The socio-cultural aspect of Sufism will be discussed connecting it to real present-day scenarios.		
Extension of knowledge	The facilitator would ignite the curiosity among the students to differentiate between the dance of Sufi saints and normal dance.		
Assessing competencies	Students would be asked questions on the basis of the class discussion and their brainstorming.		

# Toy Integrated Pedagogy Class 7 English Poem - Chivvy

**Theme-** Grown-ups should not interfere too much in the life of children.

#### **Learning Objectives**

- 1. They will be able to explain what Imperative sentences and Affirmative sentences are and use them in our conversations.
- 2. They will be able to explain where the poetic device "Irony" is being used in a poem.
- 3. Students will be able to have a dialogue conversation using imperative and affirmative sentences.

#### 1. Sparking Readiness

Teacher's pre-preparation

Students' preparation

Creating a learning environment

The facilitator will enter the class while using a "socks puppet".



Facilitator: Good morning students. Meet my new friend whose name is "Anand". Tell something interesting about yourself to your new friends.

Anand: Hello friends, My name is Anand and I am 12 years old just like you. And people or "adults" usually call me "Anand don't". I also have a question for all of you. "Do you like to be always told what to do or not to do? Do grown-ups do this in your experience?



#### 2. Igniting Interaction

Provide opportunities for interaction

Individual vs individual

Individual vs group

Individual vs teacher

Teacher vs group

What does the picture say?



Observe the picture given below individually for 2 minutes:

Now, turn to your partner and discuss the following questions

- What do you think the adult is doing in the picture?
- What do you think the children are doing in the picture?
- What do you think the children are feeling? Why?
- Has something similar happened to you previously?
- What do your parents say when you leave for school in the morning?

Now, we will have a whole class discussion on the above questions.

#### 3. Crafting a toy

Expressing their Creativity and originality

Now, we are going to visualise and enact a dialogue conversation between an adult and a child which we felt happened in the story with the help of a telephone.

#### Tet- e -Tet-on Matchbox Telephone

- 1. Divide the class into pairs.
- 2. Ask the students to make a hole in the centre of each of the inner matchboxes
- 3. Instruct them to pass the two ends of the thread through these holes.
- 4. Tie a matchstick at each end to ensure that the thread does not come out of the holes.
- 5. Ask one student from each pair to hold one matchbox case near his or her ear and hold the other case near the mouth of the other partner.
- 6. Ask them to ensure that the thread is stretched so tightly that the partner is able to hear the voice very clearly through the other matchbox placed on his or her ear.
- 7. Our telephone is ready to play!

Use this telephone, and one child in each pair will enact as an adult while the other will enact as a child.

#### 4. Describing a toy

Give thinking questions on Materials, procedure and challenges

- Why do you think we made a telephone?
- Could we use another material instead of a thread?
- What were some of the challenges you faced while making the toy?
- How could my toy have been better?

#### 5. Contextualizing with Content

Bridging the learning process: Coherence of Knowledge with skills

Critically think about these questions-

"What kind of sentences did we use while enacting the dialogues of an adult?"

"What kind of sentences did we use while enacting the dialogues of a child?"

"Was there a pattern in all the dialogues?"

"What was the underlying notion while enacting?"

So, when we tried to enact the dialogues of an adult in the given picture, our speech was commanding or more like an order which is Imperative sentences.



But, when we tried to enact the dialogues of a child, our speech was more affirming rather than negating, which are Affirmative sentences.

But, does this also happen in our daily lives?

Do our adults always try to give commands and orders? But why?

Now, we will try to read the poem given in our book - "Chivvy" and enact it in a similar way with the help of our tit-e-tat.

#### Chivvy

Grown-ups say things like:

Speak up

Don't talk with your mouth full

Don't stare

Don't point

Don't pick your nose

Sit up

Say please

Less noise

Shut the door behind you

Don't drag your feet

Haven't you got a hankie?

Take your hands out of

your pockets

Pull your socks up

Stand up straight

Say thank you

Don't interrupt

No one thinks you're funny

Take your elbows off the table

Can't you make your own

mind up about anything?

(Individual reading)

#### 6. Extension of knowledge

#### Multidisciplinary approach

Extension of the activity: Now, let us do a role reversal in which the adults are supposed to use affirmative sentences while the children are supposed to use commanding speech.

Do you think this is possible? Can we, as children, order or tell an adult what they are supposed to do?

Science: Focussed discussions can be conducted on frequency, oscillations, the pitch of sound waves, and other related concepts of science.

Ask the students to try and manipulate the materials around them to make the telephone For example - ask them to change the medium or use different material other than a thread and try to investigate which works better and why

Art and Craft: While making

#### 7. Assessing competencies

Formative and Summative

- Q1. Discuss these questions in small groups before you answer them.
  - 1. When is a grown-up likely to say this? Don't talk with your mouth full.
  - 2. When are you likely to be told this? Say thank you.
  - 3. When do you think an adult would say this? No one thinks you are funny.
- Q2. The last two lines of the poem are not prohibitions or instructions. What is the adult now asking the child to do? Do you think the poet is suggesting that this is unreasonable? Why?
- Q3. Why do you think grown-ups say the kind of things mentioned in the poem? Is it important that they teach children good manners and how to behave in public?
- Q4. If you had to make some rules for grown-ups to follow, what would you say? Make at least five Such rules.
- Q5. Write any 5 imperative and 5 affirmative sentences you listen to or use in your daily life. Now, try to arrange these in a poem.

## Annexure D

# Orientation on Toy-Integrated Pedagogy at DIET RN for Trainees & School Practictioners



## Orientation Sessions & Workshops on Toy-Integrated Pedagogy at Sarvodaya Co-Ed Vidyala A-2 Paschim Vihar













# Toy Integrated Activities





# Opportunity to talk with toys







# Toy Integrated Activities





"When I was a child I had the freedom to make my own toys out of trifles and create my own games from imagination. In my happiness my playmates had their full share;

fact the complete enjoyment of my games depended upon their taking part in them. One day, in this paradise of our childhood, entered a temptation from the market world of the adult. A toy bought from an English shop was given to one of our companions; it was perfect, big and wonderfully life-like. He became proud of the toy and less mindful of the game; he kept that expensive thing carefully away from us, glorying in his exclusive possession of it, feeling himself superior to his playmates whose toys were cheap. I am sure if he could have used the modern language of history he would have said that he was more civilised than ourselves to the extent of his owning that ridiculously perfect toy. One thing he failed to realise in his excitement – a fact which at the moment seemed to him insignificant – that this temptation obscured something a great deal more perfect than his toy, the revelation of the perfect child. The toy merely expressed his wealth, but not the child's creative spirit, not the child's generous joy in his play, his open invitation to all who were his compeers to his play-world".

From Civilisation and Progress by Rabindranath Tagore



For children, the whole world is a laboratory - they are always making things. "The best thing a child can do with a toy is to break it."

- Arvind Gupta ,an Indian toy inventor& scientist.



### DISTRICT INSTITUTE OF EDUCATION AND TRAINING

(State Council of Educational Research and Training) Old Rajinder Nagar, New Delhi - 110060



@dietrndelhi



f dietrn



dietrajindernagar@yahoo.com