

ISSN 0970-9282

The Primary Teacher

Volume XLVII

Number 2

April 2022



About the Journal

The Primary Teacher is a quarterly journal brought out by the National Council of Educational Research and Training (NCERT), New Delhi. It carries articles and research papers on educational policies and practices, and values material that is useful for practitioners in contemporary times. The Journal also provides a forum to teachers to share their experiences and concerns about the schooling processes, curriculum, textbooks, teaching-learning and assessment practices. The papers for publication are selected on the basis of comments received from two referees. The views expressed by individual authors are their own and do not necessarily reflect the policies of the NCERT, or the views of the editor.

© 2023*. Copyright of the articles published in the Journal will vest with the NCERT and requests for reproducing the material should be addressed to the Academic Editors.

Advisory Board

Director, NCERT : Dinesh Prasad Saklani

Head, DEE : Suniti Sanwal

Head, Publication Division : Anup Kumar Rajput

Editorial Board

Academic Editors : Anup Kumar Rajput

Varada M. Nikalje

Chief Editor : Shveta Uppal

Publication Team

Chief Production Officer : Arun Chitkara

Chief Business Manager : Amitabh Kumar

Assistant Production Officer : Rajesh Pippal

Cover

Amit Srivastava

OFFICES OF THE PUBLICATION DIVISION, NCERT

NCERT Campus
Sri Aurobindo Marg
New Delhi 110016 Phone: 011-26562708

108, 100 Feet Road
Hosdakere Halli Extension
Banashankari III Stage
Bengaluru 560085 Phone: 080-26725740

Navjivan Trust Building
P.O. Navjivan
Ahmedabad 380014 Phone: 079-27541446

CWC Campus
Opp. Dhankal Bus Stop
Panihati
Kolkata 700114 Phone: 033-25530454

CWC Complex
Maligaon
Guwahati 781021 Phone: 0361-2674869

Single Copy: ₹ 65.00 Annual Subscription: ₹ 260.00

Published by the Head, Publication Division, National Council of Educational Research and Training, Sri Aurobindo Marg, New Delhi 110 016 and printed at Chandra Prabhu Offset Printing Works (P.) Ltd., C-40, Sector-8, Noida 201 301 (U.P.)

*Printed in June 2024

Facilitating Listening and Speaking at Primary Level Using Intelligent Personal Assistant (IPA)

Abhishek Verma *

Sanjay Arora**

Abstract

Intelligent Personal Assistant (IPA) enables Natural Language Interface between human and machine through translation of human intentions into commands by recognising users' speech and gestures. The study focuses on facilitating listening and speaking of low-competence learners at the primary level through IPA. Students at the primary level lack the opportunity to communicate in the target language, which makes them hesitant as well as anxious while using L2 in public. The proposed paper aims to understand the limitations and pedagogical usage of smart speakers such as Amazon Echo and its associated voice-controlled Intelligent Personal Assistant (IPA) Alexa for primary-level students. The researchers believe that these devices help the learners in practicing, speaking and listening in a stress-free environment and also promote learner autonomy (out-of-class learning). They intend to develop a few exercises that users can undertake to make a meaningful 'human-computer' interaction with IPA devices.

INTRODUCTION

Intelligent Personal Assistant (IPA)/ Intelligent Virtual Assistant is an AI-driven program that follows voice commands to complete tasks like setting reminders, getting some information, finding mathematical solutions, ordering food or listening to music and binge content. This tech works on the methods of Natural Language Processing (NLP), Machine Learning (ML), Automatic

Speech Recognition (ASR), etc. IPAs can be installed on smartphones, tablets, and smart speakers, and they can be activated in various ways, including text messages for Google Assistant and voice commands for Google Home and Amazon Smart Speakers (Hauswald et al., 2015). There are various types of Virtual Assistants available in the market, some of which are listed below, along with their features.

* Research Scholar, Department of English, Central University of Rajasthan, Ajmer, India

** Associate Professor and Head, Department of English, Central University of Rajasthan, Ajmer, India

Siri

Siri was first launched in 2010 as an app and was later acquired by Apple. It has added many more features since then, and now it is one of the most accurate voice assistants in the market. To wake it up, the user simply says, “Hey Siri,” and it starts following the commands. Even if you are getting bored, there are hundreds of recorded responses that can make communication a fun activity.

Google Assistant

Google took many years to launch its flagship voice assistant AI software. Studies suggest that it is at the top of the pile in understanding users’ commands and resolving queries correctly. The study conducted by the Loup Ventures team asked around 800 questions to Siri and Google, and Google Assistant was able to understand 100 percent of the questions and answered 92.9 percent correctly, (Bell, 2019).

Alexa

It is certainly the most popular voice assistant in the world and is being used by millions of people at the present time. Powered by Amazon, it comes in various devices (with screen and without screen), Amazon calls them home speakers, and according to the data, Amazon has sold around 100 million Alexa-powered gadgets by January 2019. Amazon smart speakers can integrate different skills from Amazon Alexa skills and the Alexa Skills Kit (Ask), and Google Home

Smart Speakers; capabilities can be upgraded via Google Actions. There are millions of skill programs available for these devices which allow learning in a creative way. For example, if the user subscribes to some storytelling skill while narrating the story, it offers choice-based questions to listeners before moving forward. It increases the participation of the listeners at the same time, improves the concentration of the students to listen attentively. Based on this background, the paper deals with answering the following two research questions:

- RQ 1. **Can IPA devices enhance L2 learners’ listening abilities at the primary level?**
- RQ 2. **Can IPA devices enhance L2 learners’ speaking proficiency at the primary level?**

LITERATURE REVIEW

The researchers have conducted a systematic literature review focusing on the impact of IPA in second language learning. With the advancement of technology, IPA has become more accurate in dialogic interaction over the years, and the researchers have an understanding that this technology can be used to fill the space between learning a language in class and practicing it at home, especially in improving pronunciation, listening and speaking abilities (Barcomb et al., 2017). So far, very few studies have been done in this area; however, researchers have tried incorporating a few findings from previous research that support our hypothesis.

According to a comparative study conducted by Department of English, National Taiwan Normal University, a significant difference was found in the speaking efficiency of the participants. The research suggested that learners can improve their speaking skills by interacting with IPA devices. Dialogic interactions can improve language development, according to interactionist theory, since they naturally create chances for input, output, and interaction (Long, 1996). In IPA-mediated interaction, the user gets the opportunity to speak and listen in the target language, and in this process, learners have the opportunity to negotiate for meaning and receive feedback which in some way allows the learners to notice the gap between the intended meaning and the meaning suggested by the AI in the target language (Pica, T., 2013). Studies have identified that users can develop interactive tasks or ask follow-up questions to acquire any information.

In machine-human interaction, Engwall et al (2021) identified four roles: Interviewer (seeking information), Interlocutor (asking questions or giving comments to promote equitable engagement of learners), Narrator (giving opinion or information in answer to inquiries), and Facilitator (asking questions or making comments to encourage learner interaction). In the case of Facilitators or Interlocutors, learners are more under pressure to take initiative during their interactions, according to

the researchers. They discovered that learners actively practiced with IPAs in significant ways.

JUSTIFICATION

The researchers have based their study on the findings of a research team from NCERT commissioned by MHRD during 2009–10. The study was titled, ‘The Study on the Teaching of English in Government Schools at Primary Level in India.’ The design of the research was prepared for Sarva Shiksha Abhiyan. The study’s findings inspired the researchers to discover answers to the challenges that affected our primary-level English teaching and learning system. The objectives of the study (NCERT), which are in connection with our research area, were; ‘To ascertain the status of teaching English at the primary level both as a subject and medium of instruction, and ‘To observe the training programmes (both pre-service and in-service) for teachers of English and to assess their competence in teaching English at the primary level.’ The study methods were ‘Discussion with teachers’ and ‘observation of the classroom.’ The major findings of the study are summarised below:

- The State textbooks for level 1 (Classes I and II) put less emphasis on listening and speaking abilities and do not foster language affinity.
- Children are not given the opportunity to hear or talk in English. They cannot tell stories, discuss ideas or hold a

simple conversation in English.

- In the pre-service teacher training programme, theory takes precedence over practice.
- The actual hands-on experience is missing during the teacher training in some cases.

Teachers are generally in the habit of resorting to the local language to facilitate the L2 learners. This way, the learner never gets to frame sentences naturally in the second language and starts translating in the mind before uttering. The absence of a companion at home to converse in the target language disrupts the practice of learning, it is also rare to see the teachers develop speaking and listening proficiency. Observing the classroom, it was discovered that most teachers asked the questions to the students, but they were not prompted to ask the teacher. This deprived the youngsters of communication, command, and confidence skills.

The study concluded that teachers need to be well-trained to teach English as a language. The usage of multimedia in training has been recommended as a way to improve their communication abilities. An important insight is that textbooks should include activities and questions that provide room, time, and freedom for the kid to develop creativity and imagination. Students should also practice asking a wide variety of questions (personal, comprehensive, grammar, and general questions) as well as answering them.

Use of IPAs in Language Learning

It is well known that IPAs promote dialogic interaction, and researchers have identified their use in language classes. Previous studies have found that most students enjoy using IPAs and believe they can improve their listening and speaking skills. Using these devices, learners feel more engaged and stress free also they are in a constant learning environment which allows them to speak more of L2 at their convenience. According to the results of a survey (Chen et al., 2020), Google Home speakers are motivating, and students love the interactive experience, and consider them to be a valuable tool for improving their listening and speaking skills.

When it comes to communication methods, studies have discovered that users learn to limit communication breakdown by employing a range of strategies. In a study, Underwood (2017) devised a series of exercises and requested primary school students to utilise IPAs effectively for over nine months; while analysing the results, the researcher discovered that students could repeat, reformulate or self-correct to get replies from their IPAs. Similarly, Moussalli and Cardoso (2020) discovered that learners utilised tactics like repeating or rephrasing questions to prevent communication breakdowns.

According to a study conducted by Winker and Sollner (2019) on 21 groups who used IPA in solving problem tasks. These groups engaged with IPA gadgets, and the study

documented their experiences. The findings implied that user groups made greater efforts to accomplish a task and contributed more uniformly to its completion. The results showed that users, conversations flowed more naturally since they were less frequently interrupted by one another. It is also important that participants communicate with smart tutors rather than human tutors because they feel more at ease and confident doing so. Some people like these tools because they feel more in control of the situation and are relieved of the strain of finishing the assignment effectively.

METHOD

The researchers have examined the guidelines and activities used in schools to improve English communication skills, as well as the teaching and learning methods of English at the elementary level (NCERT). The results and recommendations from the NCERT studies (2009–2010) were also followed by the researchers.

Statistics of the ASER Report 2021 (Rural)

According to the report, even though the availability of smartphones increased from 36.5 per cent in 2018 to 67.6 per cent in 2021, more children in private schools had smartphones at home (79 %) compared to government school-going children (63.7 %) (Annual Status of Education Report Centre, 2021).

Even though the majority of the respondent States/UTs are in the process of mapping the access of digital devices to their learners across the schools, only a handful have highlighted to have more than 75 per cent of learners with access to either a TV/radio or internet (ASER Report, 2021).

National Council of Educational Research and Training (2020)

In the syllabus designed by the NCERT, these are suggested skills that need to be fostered in the learners for the development of linguistic

Table 1
Learning Enhancement Activities for Students Having Access to Digital Devices

Classes/Subjects	Learning Opportunities to be Provided
For Class I-II Language and Mathematics	<ul style="list-style-type: none"> • Listening to and reading interesting stories • Challenging daily life-related problems
For Class III-V Language and Mathematics and EVS	<ul style="list-style-type: none"> • The focus will be on listening, speaking, and reading • Age-appropriate physical activities integrated with music and dance
For Class VI-VIII (Upper Primary)	<ul style="list-style-type: none"> • The focus will be on listening, speaking, reading, and writing, as well as doing activities • Reading stories and supplementary material

proficiency for the appropriate use of language in different situations:

- The learner should acquire the ability to listen and understand and should be able to employ non-verbal clues to make connections and draw inferences.
- The learner should be able to employ communicative skills, with a range of styles, and engage in a discussion analytically and creatively.
- It is important for the learner to notice that different languages and language varieties are associated with different domains and communicative encounters.
- The learner should develop the habit of reading for information and pleasure, draw inferences and relate texts to previous knowledge, read critically, and develop the confidence to ask and answer questions.

Level-1 (Classes I-II)

Objectives

The general objectives at Level-1

- To build familiarity with the language primarily through spoken input in meaningful situations.
- (Teacher talk, listening to recorded material, etc.).
- To provide and monitor exposure to and comprehension of spoken, and written inputs (through mother tongue, signs, visuals, pictures, sketches, gestures, single word questions or answers).

- To help learners build a working proficiency in the language, especially concerning listening with understanding and basic oral production (words or phrases, fragments of utterances, formulaic expressions as communicative devices).
- To recite and sing poems, songs, and rhymes and enact small plays or skits.

Level-2 (Classes III, IV and V)

Objectives

- To enrich learners' vocabulary mainly through telling, retelling, and reading aloud of stories or folktales in English.
- To use appropriate spoken and written language in meaningful contexts or situations.
- To give them an opportunity to listen to sounds or sound techniques and appreciate the rhythm and music of rhymes or sounds.

METHODS AND TECHNIQUES

(At Level 1, there will be a shift of emphasis from learning limited input (textbook) to providing exposure to a wide range of inputs).

- An oral-aural approach to be followed (with a limited focus on reading and writing depending on the level).
- Learner-centered activity-based approach including bilingual approach.

In most places, children are not exposed to English outside the classroom. The teacher’s proficiency in spoken English in these cases

becomes all the more essential. Students may listen to English and process the new language before they actually begin to communicate in English (NCERT, 2006).

Table 2

Need of Virtual Assistance (Classroom)	Need of Virtual Assistance (Home)
<ul style="list-style-type: none"> • Teachers are unable to pick questions from all the students 	<ul style="list-style-type: none"> • Communication break at home in the absence of a companion
<ul style="list-style-type: none"> • Ample opportunities for students to speak and listen in the target language 	<ul style="list-style-type: none"> • Parents are not comfortable in the second language
<ul style="list-style-type: none"> • It enables the students to be creative 	<ul style="list-style-type: none"> • The future of parenting- leaving children at home alone • Parents get irritated by the torrent of questions asked by the children

Activities that can be Done in the Classroom Using IPA Devices

1. Develop phonemic awareness through activities focusing on different sounds, emerging from the words in stories and texts.
2. Sing or recite collectively songs or poems or rhymes with actions.
3. Listen to stories, and humorous incidents, and interact in English or the home language.
4. Ask simple questions like names of characters from the story, incidents that they like in the story, etc. (Ensure clear lip movement for children).
5. Use greetings like ‘Good morning’, ‘Thank you’ and have polite conversations in English such as ‘What is your name?’, ‘How are you?’ etc.
6. Listen to short texts from the

- children’s section of newspapers.
7. Listen to instructions and draw a picture.
 8. Enrich vocabulary in English through listening to stories and folktales.
 9. Identify opposites and use them in communication, for example, ‘tall/short’, ‘inside or outside,’ ‘fat/thin’, etc.
 10. Participate in classroom discussions on questions based on the day-to-day life and texts they already read or heard.
 11. Use meaningful grammatically correct sentences to describe and narrate incidents; and for framing questions.
 12. Use synonyms such as ‘big or large,’ ‘shut or close,’ and antonyms like inside or outside, light or dark from clues in the context.

Table 3
Pedagogical Usages of IPA Devices

Saves Time	<ul style="list-style-type: none"> • It can take care of less critical tasks, and teachers can focus on their core activities • It takes lesser time than typing
Helps Students	<ul style="list-style-type: none"> • It can answer routine factual questions • It can post weekly assignments • It can randomly create groups of students for discussion or other activities
Increases Efficiency	<ul style="list-style-type: none"> • It decreases the burden on the teacher by assisting in various activities • The teacher need not repeat the answers in every batch it can memories and answer them for you
Facilitates Personalisation	<ul style="list-style-type: none"> • Both Amazon Alexa and Google have templates and blue prints that enable the teachers to use them for specific classroom activities
Promotes Communal Learning	<ul style="list-style-type: none"> • It allows the students to hear the results of the search so they can maintain eye contact instead of looking into computers while researching something

Casual Interaction Done by Michael Bizzaco and Erika Rawes with Amazon Alexa

- Q. *Alexa, do you like pizza?*
A. While I appreciate great food and drink, my good taste is better reflected in the company I keep.
- Q. *Alexa, are you married?*
A. I'm happily single.
- Q. *Alexa, what do you want to be when you grow up?*
A. I want to be the computer from Star Trek.
- Q. *Alexa, what's your favorite movie?*
A. The Empire Strikes Back is my all-time favorite. It's impressive, most impressive.

- Q. *Alexa, are you pretty?*
A. Beauty is in the eye of the beholder.
- Q. *Alexa, who is your best friend?*
A: I have a really strong connection to your Wi-Fi.
- Q. *Alexa, what's your favorite color?*
A. I like ultraviolet. It glows with everything.

CONCLUSION

IPAs can be installed and activated in various methods on smartphones, tablets, and smart speakers (like text messages for Google Assistant and voice commands for Google Home and Amazon Smart Speakers). According to Semrush investigation, these gadgets can respond to 93.7 per cent

of search queries (Todorov, 2021). The study has emphasised the necessity of virtual aid in the classroom and the potential of these tools to support teachers in their work while assisting students in their learning. By giving them plenty of opportunities and

improving comprehension, it helps the students improve their speaking and listening skills. By prompting follow-up questions, it promotes communication skills and teaches how to connect new knowledge with prior knowledge.

REFERENCES

- ANNUAL STATUS OF EDUCATION REPORT CENTRE. 2021. *Annual Status of Education Report (Rural)*. https://img.asercentre.org/docs/aser2021finalreport_16.116.54pm1.pdf
- BARCOMB, MIKE, JANNICA GRIMSHAW, AND WALCIR CARDOSO. 2017. 'I Can't Program! Customisable Mobile Language-Learning Resources for Researchers and Practitioners'. *Languages*. Vol. 2, No. 3. pp. 8. MDPI AG. <http://dx.doi.org/10.3390/languages2030008>
- BELL, KARISSA. 2019. 'Google Assistant's Abilities Dominate Siri and Alexa, Shows Research'. *Mashable India*. <https://in.mashable.com/tech/5877/google-assistants-abilities-dominate-siri-and-alex-shows-research>
- BIZZACO, MICHAEL AND ERIKA RAWES. 2022. 'Funny Things to Ask Alexa'. *Digital Trends*. <https://www.digitaltrends.com/home/funny-things-to-ask-alexa/>
- BORTHWICK, KATE, LINDA BRADLEY, AND SYLVIE THOUESNY. 2017. 'CALL in a Climate of Change: Adapting to Turbulent Global Conditions – Short Papers From EUROCALL 2017'. pp. 317–321. *Researchpublishing.net*. <https://doi.org/10.14705/rpnet.2017.eurocall2017.733>
- CHEN, HOWARD HAO-JAN, CHRISTINE TING-YU YANG, AND KYLE KUO-WEI LAI. 2020. 'Investigating College EFL Learners' Perceptions Toward the Use of Google Assistant for Foreign Language Learning'. *Interactive Learning Environments*. 10.1080/10494820.2020.1833043. 31:3. (1335-1350). <https://www.tandfonline.com/doi/full/10.1080/10494820.2020.1833043>
- DIZON, GILBERT. 2020. 'Evaluating Intelligent Personal Assistants for L2 Listening and Speaking Development'. *Language Learning and Technology*. Vol. 24, No. 1. pp.16–26. <https://doi.org/10.125/44705>
- ENGWALL, OLOV, JOSE LOPES, AND ANNA AHLUND. 2020. 'Robot Interaction Styles for Conversation Practice in Second Language Learning'. *International Journal of Social Robotics*. Vol. 13, pp. 251–276. <https://doi.org/10.1007/s12369-020-00635-y>
- HAUSWALD, JOHANN, MICHAEL A LAURENZANO, AND YUNQI ZHANG. 2015. 'Sirius: An Open End-to-End Voice and Vision Personal Assistant and its Implications for Future Warehouse Scale Computers'. *ACM SIGPLAN Notices*. Vol. 50, No.4. pp. 223–238. <https://doi.org/10.1145/2775054.2694347>
- LONG, M.H. 1996. 'The Role of the Linguistic Environment in Second Language Acquisition'. in W. C. Ritchie and T. K. Bhatia (Eds.) *Handbook of Second Language Acquisition* pp. 413–666. New York: Academic Press.

- MOUSSALLI, SOUHEILA AND WALCIR CARDOSO. 2020. 'Intelligent Personal Assistants: Can they Understand and be Understood by Accented L2 Learners?' *Computer Assisted Language Learning*. Vol. 33, No. 1. pp. 1–26. DOI: 10.1080/09588221.2019.1595664
- NATIONAL COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING AND EdCIL INDIA (LTD.). 2012. *Teaching of English at Primary Level in Government Schools*. https://ncert.nic.in/del/pdf/English_Primary_level.pdf
- NATIONAL COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING. 2020. *Students' Learning Enhancement Guidelines*. https://ncert.nic.in/pdf/announcement/Learning_%20Enhancement_Guidelines.pdf
- . 2016. *Syllabus at Elementary Level*. [https://ncert.nic.in/pdf/syllabus/05_English%20\(I-VIII\).pdf](https://ncert.nic.in/pdf/syllabus/05_English%20(I-VIII).pdf)
- . 2017. *Learning Outcomes at Elementary Stage*. <https://ncert.nic.in/pdf/publication/otherpublications/tilops101.pdf>
- PICA, TERESA. 2010. 'From Input, Output and Comprehension to Negotiation, Evidence, and Attention: An Overview of Theory and Research on Learner Interaction and SLA'. In M. P. García Mayo, M. J. Gutiérrez Mangado and M. Martínez-Adrián (Eds.), *Contemporary Approaches to Second Language Acquisition*. pp. 1–28.
- TODOROV, GORDANA G. 2021. *Artificial Intelligence Statistics for 2021 and Beyond*. Semrush Blog. <https://www.semrush.com/blog/artificial-intelligence-stats/>
- UNDERWOOD, JOSHUA. 2017. 'Exploring AI Language Assistants with Primary EFL Students'. pp.317–321. University of Southampton.
- WINKLER, RAINER, MATTHIAS SÖLLNER, MAYA LISA NEUWEILER, FLAVIA CONTI ROSSINI, AND J.M LEIMESTER. 2019. 'Alexa, Can You Help Us Solve this Problem? How Conversations with Smart Personal Assistant Tutors Increase Task Group Outcomes'. *ACM SIGPLAN Notices*. pp. 1–6. <https://doi.org/10.1145/3290607.3313090>

Policies, Programmes and Enrolment of Tea Tribe Children at Primary Level: Status Survey

Sultana Begum,*

Quazi Ferdoushi Islam**

Abstract

Education is a major indicator of social and economic development of any country and its people. There is a history of education rights all over the world. In the Universal/United Nations Declaration on Human Rights Article 26 (1) emphasises that “Everyone has the right to education. Education shall be free, at least in the elementary and fundamental stages. Elementary education shall be compulsory.” Article 21A of Indian constitution also highlight that “The state shall endeavour to provide free and compulsory education to all children in the age group of six to fourteen years as a fundamental right.” (Hence, given the RTE act which is also called for inclusive and education of disadvantaged groups.) Moreover, the tea garden worker’s children come under this group. The tea garden workers of Assam are commonly known as ‘Tea Tribe’. The tea tribe community constitutes 20 per cent of the total population of Assam. Government has put up massive plans, provisions and acts that also has clauses dealing with the education of tea garden children. In spite of this backdrop and provisioning, the educational status of tea garden children at primary level is abysmally low. This paper highlights the enrolment rate of education of tea garden children of Assam with special reference to Lakhimpur district. The analysis of the data is based on primary sources. This paper also draws conclusions pertaining to the low enrolment in spite of government initiative at the State and center level.

INTRODUCTION

Description About Tea Tribe

The tea garden workers are characterised as a specific group of

people who are aboriginal tribe of India, but not of the state of Assam. During the colonial period, the British planters brought some people from different origins and different places

* Research Scholar, Jamia Millia Islamia, Jamia Nagar, New Delhi

**Assistant Professor, Department of Educational Studies, Faculty of Education, Jamia Millia Islamia, New Delhi-110025

of India such as Bengal, Madhya Pradesh, and Andhra Pradesh, Bihar, Jharkhand, Tamil Nadu and Orissa into tea gardens of Assam to engage them as labourers for tea cultivation. The tea garden workers are not the sole ethnic group; they have multi-culture and tradition, multi races and multi-language (Baishya, 2016).

Simply speaking the tea garden workers of Assam are called the Tea Tribe, also known as Adivasi (Chopra 2016). National Commission for Backward Classes (NCBC) stated that the tea tribe community has relative backwardness, as a result, they fall under the Other Backward Class (OBC) of Assam. They have been struggling for their original identity as Schedule Tribe status in Assam, because they are not sole ethnic group and tribe, in fact, they consist of ST's, SC's and OBC's of the different State of India. However, in Assam the tea tribe community is grouped together with the 96 subgroups in the central list of OBCs. The concept of tea tribe includes tea garden labourers, tea garden tribes, ex tea garden labourers and ex tea garden tribes.

Government Policies and Programmes

Education is an essential tool through which one can enhance their all-round development. Primary education can be considered as the cornerstone which can provide a strong basis for further education. In the twenty first century a major shift has been observed in the primary education in India by

introducing a flagship program Sarva Shiksha Abhiyan (SSA, 2001) with the objectives to enhance quality education and make it accessible to all with two other centrally sponsored schemes named as Rashtriya Madhymik Shiksha Abhiyan (RMSA) and Teacher Education (TE) to ensure inclusive and equitable quality education at all levels of school education in accordance with the sustainable development goals (SDG) for education. This integrated scheme is known as Samagra Shiksha Abhiyaan.

Meanwhile some other initiatives are also taken to strengthen the primary education. Among them Right to Education Act (RTE Act, 2009) provides a justifiable plan to enhance the improvement of all aspect of primary education. This act is also called for quality, equitable and inclusive education for the children of disadvantage group which includes free and compulsory elementary education, Neighborhood School, age-appropriate class, through activity and discovery method of teaching, psycho-social development of the children, social equity by making provisions of 25 per cent reservation in the private school, suitable teacher pupil ratio at 30:1 for primary level and 35:1 upper primary. However, the Samagra Shiksha Abhiyaan scheme mainly aims to support the states in the implementation of this act. Due to enormous government programs and enrolments drives, the enrolment of children in primary level is being increasing. This is highlighted in

the study of Urvashi Sahni (2015) and also highlighted that the problems have been addressed related to access to education and infrastructure as India has 1.4 billion schools and 7.7 billion teachers. Sandeep Sharma and at all (2020) also pointed out that the enrolment of primary education has been improved in India after launching signature initiatives such as the Sarva Shiksha Abhiyaan (SSA), United Nations' Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs). India is the second most populated county in this world where 20 per cent children having six to fourteen age groups are not enrolled in primary school (Urvashi Sahni, 2015).

In India the Gross Enrolment Ratio (GER) in primary level is 92.56 percent in 2018–2019 (UDISE). As it has been observed the enrolment ratio is declined in compare to the year 2017–2018, which were 102.79. According to ASER (Annual State of Education Report, 2020) a nationwide survey of rural education in terms of reading and arithmetic skills conducted by the NGO Pratham, the children between the age group 6 to 14 got enrolled 65.8, 28.8, 0.8 in government, private and other school (Madarsa etc) respectively. It clarified that above 60 percent children enrolled in government schools and near 30 percent enrolled in private schools whereas 4.6 per cent children are not enrol in school. From the above discussion it can be said that the status of enrolment of children in

primary level is quite satisfactory but on the other hand the children belonging to backward groups are still depriving from primary education in rural areas. Tea tribe children also comes under the disadvantaged group and despite the numbers of government schemes, policies their condition is improvised.

There are many studies which throw light on the fact that the children living in tea garden area have gone through different difficulties for instance, poor academic performances due to language difficulties, school environment is not conducive, school drop-outs, lack of facilities related to drinking water and playground, absent of co-curricular activities, low number of female teachers and lack of trained teachers in the findings of Sarma & Rabha (2020). The similar findings also shown in the study of Gogoi, 2015 that reveals that there is lack of educational facilities such as teaching learning material, school building, and playground, school dropouts and poor academic highlighted in the study of Saikia, 2016. Low enrolment rate also found in the study done by Saikia, 2017; Bosumatari & Goyari (2013) pointed out some factors are responsible for low literacy and drop-out rate such as economic backwardness of the family, negligence of girl's education, non-availability of school, early marriage, etc.

NEW EDUCATION POLICY

Later on, a kind of flexible and broad based, National Education Policy 2020

came in to light with the objectives to localise the education system by encouraging regional languages as a medium of instruction in both public and private schools. It also made provisions of inclusive education to incentivise the merits students belonging to SC, ST, OBCs and other socio-economic backward groups by expanding the National Scholarship Portal to support, foster and track the progress of students receiving scholarship. With the help of proper implementation of this policy can meet the local needs and can improve their condition as well.

Moreover, some other relevant programs, schemes and acts are described in the following accelerates the educational status of the tea garden community:

The Plantation Labour Act (PLA), 1951 under this act the Tea Garden Management Companies are responsible to provide provisions related to health, water, sanitation, canteen, crèches, recreational facilities, housing facility and educational facilities for the benefits of plantation workers and their families. According to this Act, for the children between the age of 6 and 12 of the workers employed in any plantation exceeding twenty-five in number, the State Government may make rules, requiring every employer to provide educational facilities to the children in such manner and standard as it may be prescribed. Moreover, the Assam Plantation Rules, 1956 highlights some rules for the employer

in regards to education facility of the tea garden workers children such as—(i) constructing and managing primary school with respect to education under section 14 rules 52. (ii) under the rules 53 and 56, some parameters should be set in respect to construction of school building, spaces for playground, and norms for the pupil teacher ratio (PTR), qualification for teachers, duration of curriculum, the standard and syllabus of the course of instruction. (iii) to impart free education according to rules 57 and to make provisions, facilities related to the workers children and to empower the state government to constitute an advisory board under the rules of 57A.

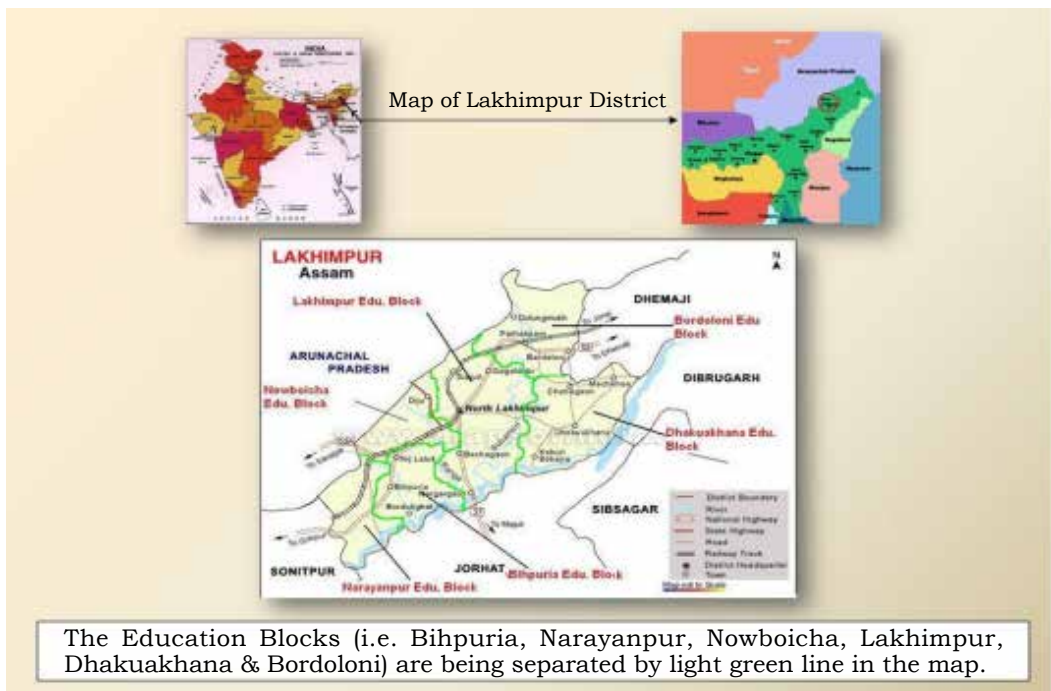
Under RMSA (Rashtriya Madhyamik Shiksha Abhiyan), the Assam government has initiated to establish 100 new UP (Upper Primary) school in tea garden area. There is limited UP school in tea garden area. In order to enhance enrollment in primary and upper primary level, the government has taken progressive to upgrade the existing LP (lower primary) and UP schools to High schools up to Class X. To bring disadvantaged section in to mainstream part of the society an initiative was taken by the Prime Minister Narendra Modi. Under this, a project was launched by the Assam government for the development of education of tea tribe community. The major initiatives are construction of 119 model high school and road in tea garden, Mobile medical units, and financial assistance

for self-employment, Scholarship to meritorious students, etc.

Profile of Lakhimpur District

Tea more commonly produced in tea gardens of Lakhimpur District which is an administrative district of Assam. According to Tea Board of India, there are 14 A+ grade tea gardens in India from which 8 A+ grade tea garden situated in the Lakhimpur and Dibrugarh District of Assam. There are eleven tea gardens in the Lakhimpur district. In this district, the

tea garden labour population is about 50,000 out of 1,200,706 the overall population of Lakhimpur district (District of India, 2019). In Assam, the overall enrolment of children in primary level is 105.64 per cent in the year 2018. The tea garden authorities have the responsibilities to educate the tea garden worker's children as per the rules under the Plantation Labour Act, 1951. Subsequently, they established some primary schools in each tea garden and those schools are named as Tea Garden Managed School.



Source: Google image

Tea Tribe and their Status of Education

Generally, the schools of tea gardens are limited to Elementary levels. There are two types of school management in tea garden area of Assam. Firstly, government school which is run, funded, managed by the government. Secondly, Tea Garden Managed School is operated by the tea garden authorities. The levels of school are Primary level (I–V), Upper primary (VI–VIII) and Composite school (primary to upper primary I–VIII).

The gross enrolment of tea tribe children at the elementary level which is about 251, 105 out of 7,760,346 (DISE data 2019–2020) of the total enrolment of children between the age group of 6–14 of the state of Assam, which represents only 3.24 per cent of the total enrolled children at elementary level inside and outside of the tea garden area of Assam. There are three Educational Blocks in Lakhimpur district which are, Bihpuria Block, Lakhimpur Block, Nowboicha Block.

Table 1
Showing the Blocks and Tea Garden Wise Population and Enrolment of Tea Tribe Children in Lakhimpur District

Sl. No.	Block Name	Tea Garden	Child Population (6–14 years) Boy Girl	Enrolment (Primary level) Both Boy and Girl	% of Child Enrolment	
1.	Bihpuria Block (1)	(i) Harmoti T.G	423	498	152	16.50%
2.	Lakhimpur Block (6)	(i) Johing T.G	562	538	209	19.00%
		(ii) Kailomari T.G	393	368	134	17.60%
		(iii) Chinatoli T.G	453	441	205	22.93%
		(iv) Seajuli T.G	220	214	150	34.56%
		(v) Ananda T.G	597	543	226	19.82%
		(vi) Pathalipam T.G (Hindi)				
3.	Nowboicha Block (4)	(i) Doolahat T.G	497	450	258	27.24%
		(ii) Tunijan T.G				
		(iii) Silonibari T.G	193	195	121	31.18%
		(iv) Dezoo T.G	505	788	281	21.73%

Source: Assam Chah Mazdoor Sangha (ACMS) and Directorate of Elementary Education (DEE), Assam (2019–2020).

Table 1 depicts the enrolment and its percentage of tea tribe children in three educational blocks named as Bihpuria, Lakhimpur and Nowboicha in Lakhimpur district. In Bihpuria block, there is one tea garden which has one primary school. The overall population of tea tribe children in this block is about 921 under the age group of 6–14 years. Out of this population, boy and girls are 423 and 498 respectively. The total enrolment of this age group children is 152, which covers 16.50 per cent of the population.

Moreover, in Lakhimpur Block there are six tea gardens such as Johing T.G, Kailomari T.G, Chinatoli T.G, Seajuli T.G, Ananda T.G, Pthalipam T.G and each has one tea garden managed primary schools. In Johing tea garden 562 and 538 are boys and girls from which approximately 209 are enrolled at the primary level covering 19 per cent of the population. Whereas, Kailomari tea garden has 393 and 368 boys and

girls respectively and about 134 are enrolled at primary level and covers 17.60 per cent of the population.

Whereas Kailomari tea garden has 393 and 368 boys and girls respectively, and about 134 are enrolled at the primary level and covers 17.60 per cent of the population.

In Chinatoli tea garden, 205 are enrolled at the primary level which comes to 22.93 per cent of the total children population where 453 and 441 are boys and girls respectively.

In the tea garden of Seajuli, 220 and 214 are boys and girls respectively. Out of the total 434 students, only 150 students are enrolled at the primary level, which covers only 34.56 per cent.

Furthermore, there are 597 and 543 boys and girls respectively in both the Ananda and Pthalipam tea garden, out of this 226 are get enrolled in primary school and they cover 19.82 per cent of the total population.

Thereafter, both Doolohat and Tunijan tea gardens have 497 and 450

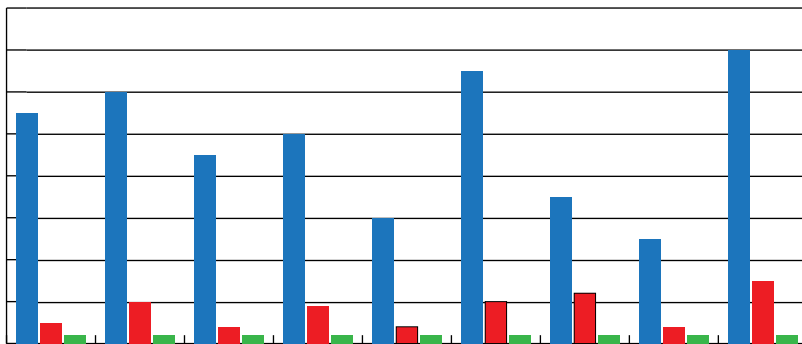


Figure 1

(Source: Assam Chah Mazdoor Sangha (ACMS) and Directorate of Elementary Education (DEE), Assam).

tea tribe boys and girls respectively in the age group of 5–15 years. A total of 258 students are enrolled at the primary level covering 27.24 per cent of the total population.

In Silonibari tea garden 193 boys and 195 girls are tea tribe children where 121 are enrolled and covers 31.18 per cent of the overall population.

The Dezoo tea garden constitutes 505 boys and 788 girls, where 281 tea tribe children are enrolled with 21.73 per cent of the total population.

The current status of enrolment and percentage of enrolment of tea tribe children in the tea gardens of Lakhimpur District is given in Figure 1.

Table 2
Overall Population and Enrolment and Percentage of Enrolment of Tea Tribe Children in Three Blocks of Lakhimpur District.

Block Name	Overall tea tribe population (Age group of 6–14 years)	Overall enrolment and percentage (%) of enrolment of tea tribe children at primary level
BIHPURIA	921	152(16.50%)
LAKHIMPUR	4329	924(21.34%)
NOWBOICHA	2628	660(25.11%)

Table 2 depicts the overall enrolment of tea tribe children in each block of Lakhimpur district. In Bihpuria block the total child population is about 921 of which 152 are enrolled at the primary level. On the other hand, there are 4,329 tea tribe children in Lakhimpur Block where 924 are admitted at the primary

level. In Nowboicha Block there are 2,628 tea tribe children of which 660 are of enrolled.

Figure 2 shows the overall population and enrolment, and percentage of enrolment of tea tribe children in three blocks of Lakhimpur District.

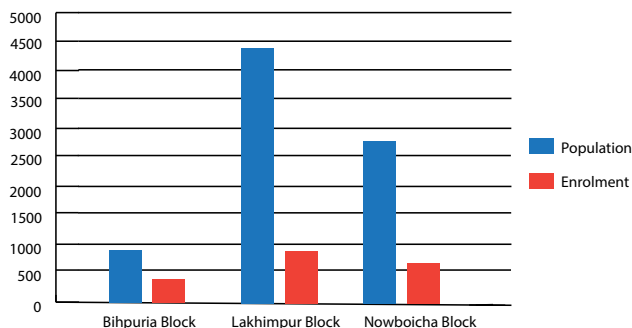


Figure 2

RESULT AND DISCUSSION

The data shown above reveals that there is low enrolment of tea tribe children in the tea garden schools. It highlighted the vast difference between the overall population and the total number of children actually enrolled between 6–14 years age groups. With only 1,736 enrolled among the overall population of 7,878, it can be said that only 22.04 per cent of the tea tribe children are enrolled in the tea garden schools of Lakhimpur district in Assam.

CONCLUSION

From the ongoing discussion it can be concluded that the enrolment of tea garden workers children in tea garden schools are not satisfactory. Although, the government has taken numerous measures to improve the

condition of their education they still lag behind even at the enrolment stage. The different research studies also highlighted the same evidences including poor academic performances and lack of trained teachers (Sarma & Rabha, 2020); lack of teaching learning material, school building, and playground (Gogoi, 2015); school dropouts (Saikia, 2016); low enrolment rate (Sarma, 2009; Saikia, 2017); economic backwardness of the family, negligence of girl's education, non-availability of school, early marriage, etc., (Bosumatari & Goyari, 2013). In a nutshell, efforts should be made to bring about the holistic development of tea tribe children. There is a need for interventions from both the center and state, district and block levels, workers union bodies and local bodies, to mitigate the various roadblocks in all the aspects of their life.

REFERENCES

- BAISHYA, DIPALI. 2016. 'History of Tea Industry and Status of Tea Garden Workers of Assam'. *International Journal of Applied Research*. Vol.2, No.9. pp. 552–556.
- BASUMATARI, DIPALI AND PHAHINDRA GOYARI. 2013. 'Educational Status of Tea Plantation Womans Workers in Assam: An Empirical Analysis'. *Asian Journal of Multidisciplinary Studies*. Vol. 1. No. 3. pp. 17–26.
- GOGOI, DIGANTA KR. 2014. 'Girl Child Education Among Tea Tribes: A Case Study of Rajgarh Tea Estate of Dibrugarh District of Assam'. *Vidyawarta: Interdisciplinary Multilingual Referred Journal*. Vol. 5, No.8. pp141–147.
- HAZARIKA, KAKALI. 2022. 'Tea Tribes are Lagging Behind in the Process of Urbanisation: A Study of Selected Tea Gardens of Jorhat District, Assam'. *International Journal of Trends in Economics Management and Technology*. Vol.1, No.6. pp. 2–6.
- KURMI, PRADIP. 2014. 'Problems of Educational Attainment of Children: A Case Study of The tea Garden Laborers Household'. *Research Journal of Language Literature and Humanities*. Vol. 1, No.4. pp. 1–7.

- SAIKIA, RUKSANA. 2017. 'Educational Scenario in Rural and Tea Garden Areas of Assam'. *International Journal of Multidisciplinary Research and Development*. Vol. 4, No. 4. pp.129–133.
- SAIKIA, RIJUMONI. 2016. 'Scenario of Primary Education in Tea Garden Areas of Assam India'. *The International Journal of Humanities and Social Studies*. Vol. 4, No.4. pp.232–236.
- SHARMA, SANDEEP, DORA MARINOVA, AND DIANA BOGUEVA. 2020. 'Transitioning to Better Primary Education: The Role of an Expatriate Organisation in India'. *Curtin University Sustainability*. pp.1–19.
- SARMA, MAYURI AND MINAKSHI RABHA. 2020. 'Problems of Primary Education among the Tea Tribe Students in Assam: With Special Reference to Dhekiajuli Sub-Division'. *International Journal of Advanced Science and Technology*. Vol. 29, No. 9. pp. 4473–4486.

ONLINE SOURCES

GAZETTE OF INDIA, RTE ACT, 2009

GAZETTE OF PLANTATION LABOUR ACT, 1951

http://www.ncbc.nic.in/User_Panel/GazetteNotificationList.aspx (NCBC, 2012) 4.[https://www.aicte-india.org/reports/overview/Sarva-Shiksha-Abhiyan\(AICTE report, 2017\)](https://www.aicte-india.org/reports/overview/Sarva-Shiksha-Abhiyan(AICTE%20report,%202017))

https://samagra.education.gov.in/docs/ss_implementation.pdf

<https://labour.assam.gov.in/portlets/plantation-workers> (Government of Assam Labour Welfare)

[https://education.assam.gov.in/frontimpotentdata/establishment-of-100 new schools](https://education.assam.gov.in/frontimpotentdata/establishment-of-100%20new%20schools) (Government of Assam secondary education)

3

Job Satisfaction and Stress among Primary School Teachers During COVID-19

P. Ponnusamy*

Sumitha Sankar**

Abstract

Due to the global challenge of COVID-19 pandemic issues, academic processes at all levels of the educational system were collapsing. Students and teachers faced challenges in terms of teaching and learning methods and face-to-face interactions. Without any preparatory processes, the teachers and students were forced to use online transitions. Due to the change of practices, teachers experienced a high level of stress and were not satisfied mostly with the new online practices. The present study aims to measure the level of job satisfaction and stress among primary school teachers during the COVID-19 pandemic period. To do this, a survey was conducted to a sample of 180 primary school teachers who were given a questionnaire—Teacher Job Satisfaction and Stress Scale (TJSSS) and Teacher to collect the required data. Results found that there is a significant relationship between the job satisfaction and stress of primary school teachers.

INTRODUCTION

Teaching is both a noble and difficult profession since teachers must deal with mental obstacles as well as different cultural, societal, and communal expectations, resulting in a large number of daily emotional interactions (Von Muenchhausen et al., 2021). Teachers are the world's knowledge transmitters to the next generation. Students learn every

day through their experiences and exposures received through their learning environment from the primary to higher levels of the educational system. They gain knowledge through face-to-face interactions with teachers and peers, as well as by handling the learning resources available in their learning environment. Students learn better when they interact with each other in the classroom. However, the global issue known as

*Assistant Professor, Department of Education, Gandhigram Rural Institute (DTBU)
Gandhigram-624 302, Tamil Nadu, India

**Lecturer, DIET Kottayam, Velloor-PO, Pampady-686501, Kerala, India

COVID-19 has caused the educational system's regular activities to collapse and face-to-face exchanges to halt (Gobbi, E., 2021).

Due to societal limitations and school closures, students were confined to their homes for a long period of time, negatively impacting their mental health (Smith and Lim, 2020). Due to modifications in teaching and learning procedures were made worldwide throughout the pandemic period to manage the educational system at all levels, including the transition from onsite to online learning (Lizana et al., 2021). The conventional teaching mode is being replaced by a virtual one with teachers being required to work from home and use ICT tools for their online classes.

In this pandemic period, school teachers have experienced high levels of stress (Cachón-Zagalaz et al., 2020), and also confronting the task of adapting to delivering online classes to their students (Besser et al., 2020). During COVID-19, factors like teachers' preparation, competency, and perceived support from school administration delayed the transformation of the school education system, and as a result of these setbacks, many teachers still prefer face-to-face or at the very least, blended techniques (Oubibi, M. et al., 2022).

Many studies conducted during the pandemic period revealed that teachers experienced stress, anxiety, sleep disturbances, and sadness, which limited their ability to teach

effectively (Al Lily et al., 2020). According to the findings of a study conducted by Alex Praveen Raj and Nelson (2021), stress factors, access to and flexibility of technological requirements, technical limits, lack of training, and other factors all influenced teacher work satisfaction. Employees or any other individual's emotional reaction to their working circumstances is referred to as job satisfaction (Baro, E.E., et al., 2013). It corresponds to one's feelings about their employment, and its numerous components lie within the multidimensional ideas of the nature of work, promotions, benefits, compensation, working physical environment, supervision, and social interactions with co-workers (Moniarou-Papaconstantinou, V. & Triantafyllou, K., 2015).

Job satisfaction, according to Chanana, N (2021), refers to people's attitudes and feelings regarding their jobs. Work, organisational climate, and nature play a significant impact in determining job satisfaction. Teachers' psychological and emotional well-being (Klassen & Chiu, 2010), motivation and career commitment (Raziq & Maulabakhsh, 2015; Demirtas, 2010), and teaching quality are all dependent on job satisfaction (Bolin, 2007). According to various studies, a poor working environment contributes to low job satisfaction due to high levels of stress, and stress can contribute to poor teaching quality (Black, 2004; Judge, Thoresen, Bono, & Patton, 2001). As a result, the shift

in work nature during the COVID-19 outbreak may have influenced teachers' job satisfaction. Teachers' teaching methods, instructional time, and workload have an impact on their job satisfaction during the epidemic. In light of the above literature, this study examines the job satisfaction and stress levels of primary school teachers during the COVID-19 pandemic.

OBJECTIVES

The following are the study's objectives:

1. To investigate the levels of job satisfaction and stress experienced by primary school teachers during the COVID-19 pandemic;
2. To explore the effects of variables such as school management, gender, and teaching experience on teachers' job satisfaction and stress; and
3. To examine the relationship between job satisfaction and stress experienced by teachers during the COVID-19 pandemic.

RESEARCH METHODOLOGY

Participants

The research was carried out in the Kerala districts of Kottayam, Pathanamthitta, and Idukki. A random sample of 253 primary schools was chosen at random from 35 primary schools, including 20 government and 15 government-aided schools, to acquire the requisite data. There were 132 government school teachers and 121 government-aided school teachers among the 253 primary

school teachers. The sample included 123 male and 130 female teachers, as well as 102 teachers with less than 10 years of experience and 151 teachers with more than 10 years of experience.

Instruments Used

The Teacher Job Satisfaction Scale (TJSS) and Teacher Stress Scale (TSS) were used to collect data from the sample. These Likert scales were created bi-lingual by the authors of this research (Tamil and English). Each scale has 20 statements that are rated on a five-point scale; strongly agree, unsure, disagree, and strongly disagree. Positive statements receive scores of 5, 4, 3, 2, and 1 for strongly agree, agree, undecided, disagree, and strongly disagree, while negative statements receive scores in the reverse sequence of scoring processes. As a result, TJSS and TSS have a maximum score of 100. Based on their scores, teachers' levels of job satisfaction and stress were divided into three categories: low, moderate, and high. Suppose they received a job satisfaction score above one standard deviation ($\text{Mean} + \text{SD}$) of the mean score, indicating high job satisfaction; a job satisfaction score below one standard deviation ($\text{Mean} - \text{SD}$), indicating low job satisfaction; and a job satisfaction score in the middle, indicating moderate job satisfaction. Using the same method, teachers' stress levels were classified as low, moderate, or high. Before distributing the research tools to the sample,

five teacher educators from DIETs, five primary school teachers, and five school heads were given the opportunity to examine the research tools and provide feedback on the research scales. They all attentively reviewed each scale item and offered their comments. Based on their valid comments, necessary changes were made. The modified research tools were presented to the jury for seeking their final comments.

The jury opined that the research tools have both face and content validity after thorough testing.

The research tools' reliability was established using the test and re-test technique, which involved giving the tools to fifteen primary school teachers. The test and re-test correlation coefficient values for TJSS and TSS are 0.714 and 0.770, respectively, indicating that the developed scales are reliable for research purposes. The authors gave the TJSS and TSS to the selected teacher sample and carefully collected the relevant data after verifying validity and reliability. The data results are summarised as follows, based on the data analysis.

RESULTS

Table 1
Job Satisfaction and Stress Levels of Primary School Teachers During COVID-19

Variable	Mean	SD	Number of Teachers with		
			Low	Moderate	High
Job Satisfaction	51.75	6.11	36 (14.23%)	174 (68.77%)	43 (17.00%)
Stress	64.39	7.5	41 (16.20%)	169 (66.80%)	43 (17.00%)

According to Table 1 data, the mean scores of primary school teachers on job satisfaction and stress scales are 51.75 and 64.39, respectively. Further, the job satisfaction scores of 36 (14.23 per cent) teachers are below one standard deviation of the mean score ($=51.75 - 6.11$); 43 (17.00%) teachers' scores are above one standard deviation of the mean score ($=51.75 + 6.11$), and the remaining 174 (68.77 %) teachers' scores are between $51.75 - 6.11$ and $51.75 +$

6.11. According to these findings, during the COVID-19 pandemic period, 14.23 per cent of primary school teachers reported low job satisfaction, 17.00 per cent reported high job satisfaction, and the majority, 68.77 per cent, reported moderate job satisfaction. Furthermore, teachers' stress levels were calculated using the same procedure used to calculate job satisfaction, and during the COVID-19 pandemic period, 16.20 per cent of primary school teachers

had low level stress, 17.00 per cent majority, 66.80 per cent, of teachers of them had high level stress, and the had moderate level stress.

Table 2
Mean Scores of Primary School Teachers in Job Satisfaction Scale: Variables Wise

Job Satisfaction w.r.t Teacher Variable	N	Mean	SD	t	p-value	
School Management	Government	132	54.43	6.25	8.21	0.00
	Aided	121	48.82	4.36		
Gender	Male	123	51.69	6.13	0.142	0.89
	Female	130	51.80	6.11		
Teaching Experience	Below 10 Years	102	51.59	6.53	0.339	0.74

Table 2 shows whether there are any significant differences in teacher job satisfaction during the COVID-19 crisis according to their school management, gender, and teaching experience. Teachers working in government schools had higher job satisfaction than teachers working in government-aided schools, according to a comparison of school management. The t-test result and p-value (=0.00 > 0.05) indicate that there was a 0.05 significant difference in job satisfaction between primary school teachers in the government and

aided school sectors. Furthermore, the gender comparison of teachers shows that there was no significant difference in job satisfaction levels between male and female teachers, as evidenced by the t-test score and matching p-value (=0.89 < 0.05). Also, the comparison of teachers' teaching experience shows that there was no significant difference in job satisfaction between teachers with teaching experiences of less than 10 years and those with more than 10 years, as seen by the t-test score and related p-value (=0.74 < 0.05).

Table 3
Mean Scores of Primary School Teachers in Teacher Stress Scale: Variables Wise

Stress w.r.t Teacher Variable	N	Mean	SD	T	p-value	
School Management	Government	132	65.91	7.62	3.44	0.00
	Aided	121	62.73	7.02		
Gender	Male	123	65.28	6.62	1.86	0.06
	Female	130	63.54	8.18		
Teaching Experience	Below 10 Years	102	64.32	7.66	0.11	0.91
	10 Years & Above	151	64.43	7.41		

Table 3 shows whether there are any significant differences in teachers' stress levels during the COVID-19 crisis based on their school management, gender, and teaching experience. Teachers working in government schools were more stressed than teachers working in government-aided schools, according to a comparison of school management. The t-test score and p-value ($=0.00 > 0.05$) indicate that there was a 0.05 significant difference between the primary school teachers' stress levels in the Government and

Aided school sectors. Furthermore, a gender comparison of teachers shows that there was a difference in stress between male and female teachers, but not at a significant level. The t-test result and corresponding p-value ($=0.06 < 0.05$) support this. Also, the comparison of teachers' teaching experience shows that there was no significant difference in stress between teachers with teaching experiences of less than 10 years and those with more than 10 years, as seen by the t-test score and related p-value ($=0.91 < 0.05$).

Table 4
Correlation Between Job Satisfaction and Stress of Primary School Teachers

Spearman's rho	Job Satisfaction and Stress
Correlation Coefficient	0.208*
Sig. (2-tailed)	0.001
N	253

* *Significant at 0.05 level*

The above table's correlation coefficient value ($r = 0.208$) suggests that there was a significant relationship between primary school teachers' job satisfaction and stress during the COVID-19 epidemic.

DISCUSSION

The study's main findings suggest that during the COVID-19 epidemic, the majority of teachers had moderate levels of job satisfaction and stress, which is consistent with Casali and Torres' findings (2021). There was also an effect of school management on teacher job satisfaction and stress. The

findings based on gender and teaching experience imply that gender and teaching experience had no impact on primary teachers' job satisfaction and stress, which contradicts findings from a prior study by Saiti and Papadopoulos (2015). Furthermore, the study found a significant relationship between teachers' job satisfaction and stress.

CONCLUSION

According to the study investigation, the majority of primary school teachers had moderate stress and job satisfaction during the COVID-19 pandemic. Teachers' dissatisfaction

in their careers is caused by the suspension of face-to-face classroom interactions and the unexpected demand to follow online education. The success and quality of a school system are generally influenced by the teaching and learning strategies used inside it. Many studies have found a strong relationship between teachers' job satisfaction and student academic success, as well as teachers' teaching performance. To deliver high-quality education to our students,

school administrators should establish a better working environment for teachers and encourage them to adopt blended teaching and learning approaches that are adapted to the needs of the students. To deal with pandemic difficulties and relieve teachers' concerns about their jobs, government school education officials should aim to provide capacity-building training and workshops for teachers on how to use various ICT tools in classroom interactions.

REFERENCES

- ANA, CASALI AND TORRES DIEGO. 2021. 'Impact of COVID-19 on Argentine University Teachers: Change of Practices, Difficulties and Increased Stress'. *Educ. Tecnol.* Vol. 28, pp. 423–431. DOI: 10.24215/18509959.28.e53
- BARO, EMMANUEL EBIKABOWEI, BIO KUROMOYE FYNEMAN, AND TIMI ZOUKEMEFA. 2013. 'Job Satisfaction Among Cataloger Librarians in University Libraries in Nigeria'. *Cataloging & Classification Quarterly.* Vol. 51, No. 6. pp. 675–696. DOI:10.1080/01639374.2013.773952
- BESSER, AVI, SARI LOTEM, AND VIRGIL ZEIGLER-HILL. 2020. 'Psychological Stress and Vocal Symptoms Among University Professors in Israel: Implications of the Shift to Online Synchronous Teaching During the COVID-19 Pandemic'. *J. Voice.* Vol. 36, No. 2. pp.291.e9–291.e16. DOI: 10.1016/j.jvoice.2020.05.028
- BOLIN, FENG. 2007. 'A Study of Teacher Job Satisfaction and Factors that Influence it'. *Chinese Educational & Society.* Vol. 40, No. 5. pp. 47–64.
- CACHÓN-ZAGALAZ, JAVIER, MARIA SANCHEZ-ZAFRA, DEBORAH SANABRIAS-MORENO, GABRIEL GONZALEZ-VALERRO, AMADOR J.LARA SANCHEZ, AND MARIA LUISA ZAGALA-SANCHEZ. 2020. 'Systematic Review of the Literature About the Effects of the COVID-19' Pandemic on the Lives of School Children'. *Frontier in . Psychology.* 11:2457. DOI: 10.3389/fpsyg.2020.569348
- CHANANA, NISHA. 2021. 'The Impact of COVID-19 Pandemic on Employees Organisational Commitment and Job Satisfaction in Reference to Gender Differences'. *Journal Public Affairs.* Vol. 2, No. 4. pp.1–12. DOI:10.1002/pa.2695
- DEMIRTAS, Z. 2010. Teachers' Job Satisfaction Levels. *Procedia Social and Behavioral Sciences* Vol. 9, pp.1069–1073. Retrieved on 20th May 2022 from <https://www.researchgate.net/publication/251713327>
- GOBBI, ERICA, MAURIZIO BERTOLLO, ALESSANDRA COLANGELO, ATTILIO CARRARO, AND SELENIA DI FRONSO. 2021. Primary School Physical Education at the Time of the COVID-19 Pandemic: Could Online Teaching Undermine Teachers' Self-Efficacy and Work Engagement? *Sustainability.* Vol. 13, No. 17, pp. 1–9. DOI:10.3390/su13179830

- JUDGE, TIMOTHY A., CARL J. THORENSEN, JOYCE E. BONO, AND GREGORY K. PATTON. 2001. 'The Job Satisfaction-job Performance Relationship: A Qualitative and Quantitative Review'. *Psychological Bulletin*. Vol. 127, No. 3. pp. 376–407.
- KLASSEN, ROBERT AND MING MING CHIU. 2010. 'Effects on Teachers, Self-efficacy and Job Satisfaction: Teacher Gender, Years of Experience, and Job Stress.' *Journal of Educational Psychology*. Vol. 102, No. 3. pp. 741–756. DOI:10.1037/a0019237
- LILY, ABDULRAHMAN ESSA AL., ABDELRAMAN FATHY ISMAIL, FATHI MOHAMMAD ABUNASSER, RAFDAN HASSAN, AND ALHAJHOJ ALQAHTANI. 2020. 'Distance Education as a Response to Pandemics: Coronavirus and Arab Culture'. *Technology Society*. Vol. 63, No. 6. pp.1–11. DOI: 10.1016/j.techsoc.2020.101317
- LIZANA, PABLO A., GUSTAVO VEGA FERNANDEZ, ALEJANDRO GOMEZ-BRUTON, BARBARA LEYTON, AND LYDIA LERA. 2021. Impact of the COVID-19 Pandemic on Teacher Quality of Life: A Longitudinal Study From Before and During the Health Crisis. *International Journal of Environmental Research and Public Health*. Vol. 18, No. 7. pp. 1–11. DOI:10.3390/ijerph18073764
- M, ALEX PRAVEEN RAJ AND NELSON D. 2021. *Work/Job Satisfaction of School Teachers with Respect to Online Classes During COVID-19*. Retrieved on 20th May 2022 from <https://www.researchgate.net/publication/351775870>
- MONIAROU-PAPACONSTANTINOY, VALENTINI, AND KALLIOP, TRIANTAFYLLOU. 2015. 'Job Satisfaction and Work Values: Investigating Sources of Job Satisfaction with Respect to Information Professionals'. *Library and Information Science Research*. Vol. 37, No. 2. pp. 164–170. DOI:10.1016/j.lisr.2015.02.006
- MUENCHHAUSEN SEN, SOPHIA VON, MATTHIAS BRAEUNIG, RUTH PFEIFER, ANJA S. GORITZ, JOACHIM BAUER, CKASS LAHMANN, AND ALEXANDER WUENSCH. 2021. 'Teacher Self-efficacy and Mental Health—their Intricate Relation to Professional Resources and Attitudes in an Established Manual-based Psychological Group Program'. *Frontiers in Psychiatry*. Vol. 12, No. 510183. pp. 1–12. DOI:10.3389/fpsy.2021.510183
- OUBIBI, MOHAMED, ANTONY FUTE, WEILONG XIAO, BINGHAI SUN, AND YUELIANG ZHOU. 2022. 'Perceived Organisational Support and Career Satisfaction Among Chinese Teachers: The Mediation Effects of Job Crafting and Work Engagement During COVID-19'. *Sustainability*. Vol. 14, No. 2. pp. 1–18. DOI:10.3390/su14020623
- RAZIQ, ABDUL AND RAHEELA MAULABAKHSH. 2015. 'Impact of Working Environment on Job Satisfaction'. *Procedia Economics and Finance*. Vol.23, pp. 717–725. DOI:10.1016/S2212-5671(15)00524-9
- SUSAN, BLACK . 2004. 'Stroking Stressed-out Teachers'. *Education Digest*. Vol. 69, No. 5. pp. 28–32.
- SAITI, A., AND PAPADOPOULOS, Y. 2015. 'School Teachers' Job Satisfaction and Personal Characteristics: A Quantitative Study in Greece'. *International Journal of Educational Management*. Vol. 29, No. 1, pp. 73–97. DOI:10.1108/IJEM-05-2013-0081
- SMITH, BEN J., AND MH LIM. 2020. 'How the COVID-19 Pandemic is Focusing Attention on Loneliness and Social Isolation'. *Public Health Res. Pract.* Vol. 30, No. 2. pp. 1–4. DOI: 10.17061/phrp3022008

4

Gender Differences in Anxiety and Its Relation to Academic Achievement

Aiyaz Ahmad Khan*

Abdul Samad**

Abstract

Anxiety is a major area of interest within the field of education. The present study aims to compare and measure the anxiety of boys and girls at the primary level, and to ascertain the association between academic achievement and anxiety of students at the primary level across gender. The sample consisted of 210 students of Class V from seven government schools of Murshidabad district, West Bengal. The data was collected using the Spence Children's Anxiety Scale-Child (1998). Using statistical techniques including t-test, Pearson correlation and T-score, the collected data was analysed. The results of the present study revealed that girls at the primary level are more in number and percentage having elevated anxiety. Apart from obsessive compulsive disorder and physical injury fear, the study clearly shows that there were no gender differences in any anxiety subscales. The researchers identified a negative association between academic achievement and anxiety among primary students.

INTRODUCTION

Anxiety is a condition of being anxious and uneasy. It is a kind of emotion that alerts us of probable danger ahead. American Psychiatric Association (2013) viewed anxiety as, “an anticipation of future danger or misfortune, which is often associated

with muscle tension and vigilance in preparation for future danger and cautiousness”. Further, anxiety can be defined in two forms, i.e., minor and major. In minor form, anxiety helps people take action or stop experiencing discomfort by warning them of potential troubles. Anxiety, on the other hand, is

*Assistant Professor, Aligarh Muslim University Centre Murshidabad (AMUCM), West Bengal-742223

**Assistant Professor, Aligarh Muslim University Centre Murshidabad (AMUCM), West Bengal-742223

a major type that highlights the issue that hurts the soul. Sometimes, people use fear interchangeably with anxiety. Though, fear is a real danger that can be in front of us, while anxiety is the perception of a threat outside that may not actually be a threat (Bharti, 2016). Today's individuals experience anxiety in their personal and professional life that may be considered natural and beneficial in some circumstances to get desirable results. But in some cases, anxiety is a threat to the integrity of an individual. Instead of the usual feelings of apprehension or anxiety, there is excessive fear or anxiety when anxiety disorders are present. Agoraphobia, social anxiety disorder, panic disorder, specific phobias, generalised anxiety disorder, and separation anxiety disorder are a few of the several types of anxiety disorders and from the majority of all mental disorders, and about 30 percent of people experience anxiety problems at a certain point in their lives (Muskin, 2021).

Nowadays disorders of anxiety are one of the common problems in the study area (Deb & Walsh, 2010; Karande et al., 2018; Bakhla et al., 2013). Though, there are large numbers of students remaining undiagnosed with this problem (Tomb & Hunter, 2004). Lack of diagnosis and treatment of anxiety may lead to various socio-emotional problems in adolescents including low self-esteem, loneliness and challenges in making friends. Students are often encountered with a variety of stressful and anxiety-inducing

stimuli at almost every stage of their educational experience (Schutz & Pekrun, 2007). Anxiety in childhood and adolescence has been shown to negatively impact psychological attributes that include academic achievement and social functioning (Kessler et al., 1995). Sometimes, the student himself refuses to go to school due to anxiety (Berg, 1992). It also contributes to dropping out students from school (Stein & Kean, 2000). The cause of anxiety among school students may be parents' high expectations from children for better grades. This will create unnecessary pressure in the mind of students resulting in dropouts and failure in examinations. National Crime Records Bureau (2020) reported that 1.4 per cent of adolescents below the age of 18 years committed suicides due to failure in examinations. Therefore, it can be stated that anxiety is widespread among children.

REVIEW OF LITERATURE

There are a number of research studies that address the problem of anxiety from different aspects. Last and Strauss (1990) reported that younger children frequently refuse to attend school due to separation and social phobia anxiety. Similarly, Berg et al. (1992) observed that due to anxiety disturbance there are cases of absenteeism. Deb and Walsh (2010) posited that compared to adolescents from both high and low socioeconomic positions, those from moderate socioeconomic status had more anxiety. Further, they

corroborated that teenagers having working mothers were shown to be more anxious. The researchers, Essau et al. (2011) explained that girls had more anxiety disorders than boys did, subsequently, the rates increased with age. Zhao et al. (2012) in their work on 'Chinese children' highlighted that higher anxiety levels are found in adolescents than in children and in girls than boys. In this direction, Bakhla et al. (2013) figured out that 11 per cent of Class VIII students in Jamshedpur have anxiety symptoms and high anxiety associated with females.

Though, Bharti (2016) in her research work revealed that support along with good parent-child relationships, teacher-student relationships and parent-teacher relationships, all reduce anxiety. Karande et al. (2018) investigated anxiety symptoms in Mumbai youngsters and discovered that around 11 per cent of kids from Classes III to X had anxiety symptoms. Khesht-Masjedi (2019) and Bushra et al. (2021) are of the same view and state that anxiety is negatively associated with the academic progress of students. During COVID-19, Harjule et al. (2021) discovered that there is a strong and detrimental correlation between anxiety and mental health. Few studies have been conducted to address the problem of anxiety in students at the school level and its relation with academic achievement. The aim of the present study is to close the gap in the academic community.

SIGNIFICANCE

This study's main aim is to examine the role of anxiety in academic achievement. All children between the ages of six and fourteen are guaranteed free and compulsory education under the Right to Education Act of 2009. The aforementioned act also mandates that educational institutions make sure that children's education is free from trauma, fear and anxiety. The holistic development of the kid is another goal of education. The National Education Policy (2020) has correctly remarked that every educational institution must include a counselling system for coping with a stressed and emotionally distressed child. Despite the fact that anxiety is one of the most common emotions, regardless of gender.

Many researchers have discussed that females are more anxious than males (Ishikawa & others, 2009; Essau & others, 2011; Zhao & others, 2012; Bakhla et al., 2013; Maria et al., 2016; Ahmadi, et al., 2016; Jalnapurkar et al., 2018; Karande et al., 2018). The feeling of anxiety gets prevalent among females because they are deprived of equal rights and opportunities, and also subjected to various forms of exploitation. Examining children for signs of increased anxiety is important because it prepares the way for subsequent action. If it is discovered that children have a higher anxiety level, the problem can be handled appropriately. As a result, the researchers will examine the gender variations in anxiety as well as

the connection between anxiety and academic achievement in this study.

- The study was conducted at government schools.

OBJECTIVES

The present study is aimed at achieving the following objectives:

- To measure the anxiety of students at the primary level across gender.
- To compare the anxiety level of boys and girls at the primary level.
- To ascertain the association of anxiety and academic achievement of students at the primary level across gender.

HYPOTHESES

To realise the objectives following hypotheses were formulated:

H 1: Boys and girls at the primary level would not differ significantly on overall anxiety and various subscales of anxiety, viz., separation, social phobia, obsessive-compulsive disorder, agoraphobia, physical injury fear and generalised anxiety.

H 2: There is no correlation between anxiety and students; academic achievement of students at the primary level across gender.

DELIMITATIONS

- The present study was confined to Class V students.
- The study was delimited to the Murshidabad district of West Bengal.

METHODOLOGY

Data and information presented in the study have been taken from primary sources. The researchers employed the descriptive survey strategy.

Sample

In order to carry out the present study, the investigators adopted a multistage sampling strategy. This study was confined to Class V students of the Murshidabad district of West Bengal. There were five subdivisions in the Murshidabad district. Out of these five, the investigators chose the Jangipur subdivision as of convenience. Further, block Suti-1 from seven blocks of this subdivision was selected through random sampling techniques. There were around 104 as per the Unified District Information System for Education Plus (UDISE+). Out of these 104 schools, seven schools were selected through a random sampling technique. The sample of the study was composed of 210 students studying in Class V of these selected schools. Out of these students, there were 102 boys and 108 girls.

Tools Used

Investigators used Spence Children's Anxiety Scale-Child (SCAS) in the present study to ascertain the anxiety level of primary students (Spence, 1998). It's a frequently used measure for the assessment of anxiety symptoms

in children all over the world. This tool was meant for students between the age of 8 to 12 years. This scale contained 44 items (6 positive filler items) based on six subscales (mentioned in the introduction part). Each subscale measures different dimensions of anxiety, viz., separation anxiety is a worry or discomfort associated with being separated from one home or attachment figures; social phobia is concerned with excessive anxiety being in the company of others or performing in front of others (especially strangers); agoraphobia is characterised by extreme discomfort accompanied by bodily symptoms (such as perspiration, dizziness or the fear of being trapped in areas where escape is impossible); OCD is a disorder that affects people who are in a lot of pain (due to repeated impulses and thoughts, that are disturbing and may lead to repetitive); physical injury fear deals with intense dread triggered by a specific object or scenario, and the last subscale generalised anxiety disorder deals with excessive worrying about events or activities (DSM-5, 2013).

Test-retest reliability and internal consistency have been demonstrated for the SCAS (Spence, 1997; Spence, 2003; Essau et al., 2011; Zhao et al., 2012). The responses were recorded on a 4-point Likert Scale, i.e., 3 for always, 2 for often, 1 for sometimes and 0 for never. Scoring of the data was done strictly according to instructions provided in the manual. However, the positive filler items scored were not included.

As far as academic achievement is concerned, previous annual examination (Class IV) marks of students were taken from school records and their aggregate percentage of marks was considered as their academic achievement score.

Statistical Techniques Used

In order to realise the objectives of the study, investigators computed statistical techniques including the t-test and Pearson correlation.

T-score was computed to determine the anxiety level of primary students and responses having T- Scores more than 60 were considered as elevated anxiety, as per the manual (Spence, 1998).

t'-test was used to compute the gender difference between boys and girls at the primary level on anxiety.

Further, Product Moment Correlation was used to examine the association between anxiety and academic achievement of primary students. The analysis was done with the help of SPSS-version 20.

Data Collection Procedure

In order to collect the data, first investigators contacted the principals of four selected schools. After getting permission from the principal, the investigators administered the SCAS to all the Class V students of these selected schools. The data collection was completed in one month, i.e., September 2021.

Analysis and Interpretation

Data collected by above mentioned tools were analysed and obtained results were interpreted in three subheadings, viz., students and anxiety, gender differences and anxiety, and the relationship between anxiety and academic achievement.

Students and Anxiety

T-score was calculated to measure the anxiety of primary students across gender; results were presented in the Table given below.

Table 1 presents the number and percentage of boys and girls at the primary level that has elevated anxiety

Table 1
Students with Elevated Anxiety at the Primary Level

Subscale	Boys		Girls		Total	
	Number	Per cent	Number	Per cent	Number	Per cent
Separation Anxiety	13	6.19	11	5.24	24	11.43
Social Phobia	15	7.14	18	8.57	33	15.71
OCD	21	10	15	7.14	36	17.14
Agoraphobia	16	7.62	20	9.52	36	17.14
Physical Injury Fear	13	6.19	17	8.10	30	14.29
Generalised Anxiety	10	4.76	17	8.10	27	12.86
Overall Anxiety	13	6.19	17	8.10	30	14.29

**Individual Subscale T-Score>60*

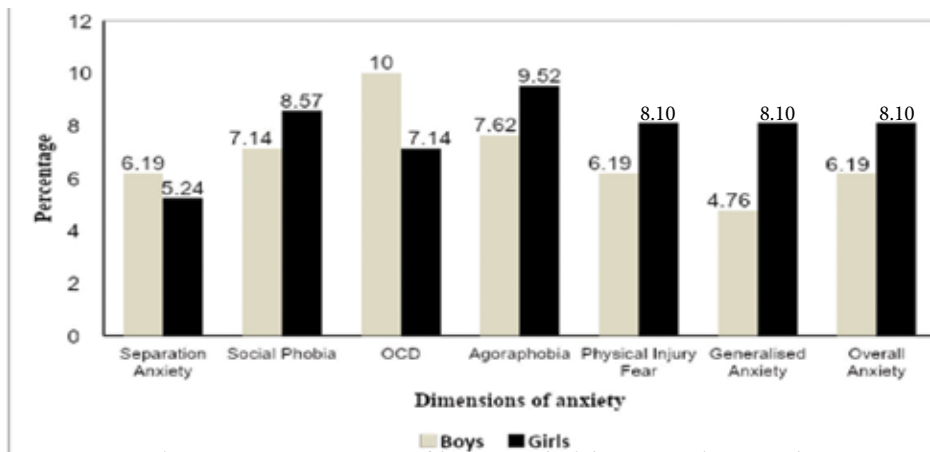


Figure 1 : Percentage of boys and girls on anxiety scale

in totality and on various subscales of anxiety. The highest 17.14 per cent of anxiety was noticed for students on both subscales obsessive-compulsive disorder (10 % for boys and 7.14 % for girls) and agoraphobia (7.62 % for boys and 9.52 % for girls). As far as the social phobia subscale, an aggregate of 15.71 per cent anxiety was reported by students which include 7.14 per cent for boys and 8.57 per cent for girls. Similarly, a total of 14.29 per cent anxiety was found in students on the physical injury fear subscale, while for boys and girls it was 6.19 and 8.10 per cent respectively.

The case of generalised anxiety was 12.86 per cent, wherein 4.76 per cent of boys and 8.10 per cent of girls. However, the lowest 11.43 per cent anxiety was measured in students on the separation anxiety subscale. Out of this, 5.24 per cent of the students were girls and 6.19 per cent were boys. When we see the overall anxiety from table-1, reveals that 14.29 per cent of students at the primary level were found anxious altogether, with which boys at 6.19 per cent and girls at 8.1 per cent. Karande et al. (2018) reported that 11 per cent of students of Classes III to VIII were having anxiety symptoms in Mumbai city. Similar results were reported by Bakhla et al., (2013), that 11 per cent of students of Class VIII in Jamshedpur were having anxiety symptoms.

It was clear from the overall and four subscales results that girls experienced greater levels of anxiety than boys i.e., social phobia, agoraphobia, physical injury fear and generalised anxiety. However, a percentage of boys at the primary level were found more anxious on subscales of separation anxiety and obsessive-compulsive disorder than their girls. It clearly shows that there was variation in T-score between boys and girls at the primary level in totality as well as on various dimensions of anxiety. On the whole, it can be concluded that girls' anxiety levels are more in percentage in totality.

The finding is in conformity with that of Bakhla et al., (2013), who stated that female students are having high anxiety levels. The findings of the present studies are also supported by Ahmadi et al. (2016), Ishikawa et al. (2009), and Karande et al. (2018); they reported that girls have more anxiety symptoms than boys. The contradictory results were reported by Deb and Walsh (2010) who reported that boys were more anxious than girls.

Gender Differences and Anxiety

To test the hypothesis that gender differences would not differ significantly in overall anxiety and on various subscales of anxiety, the sample was divided into two categories (i.e., boys and girls) and then the 't-test was computed.

Table 2
Gender Differences and Anxiety

Descriptions	Gender	N	M	SD	t-value	Sig.
Separation Anxiety	Boys	13	66.75	3.31	0.12	0.90
	Girls	11	66.97	4.66		
Social Phobia	Boys	15	63.97	2.46	1.50	0.14
	Girls	18	65.46	3.25		
OCD	Boys	21	63.82	2.86	2.74*	0.009
	Girls	15	68.33	6.74		
Agoraphobia	Boys	16	64.38	2.39	1.66	0.10
	Girls	20	66.96	6.58		
Physical Injury Fear	Boys	13	64.05	2.50	3.98**	0.00
	Girls	17	70.52	5.76		
Generalised Anxiety	Boys	10	64.80	3.14	1.14	0.26
	Girls	17	66.37	3.45		
Overall Anxiety	Boys	13	61.36	1.28	2.50	0.19
	Girls	17	65.03	4.94		

M: Mean, SD: Standard Deviation, N: Number of Students

*Significance: $p < .05$, **Significance: $p < .01$

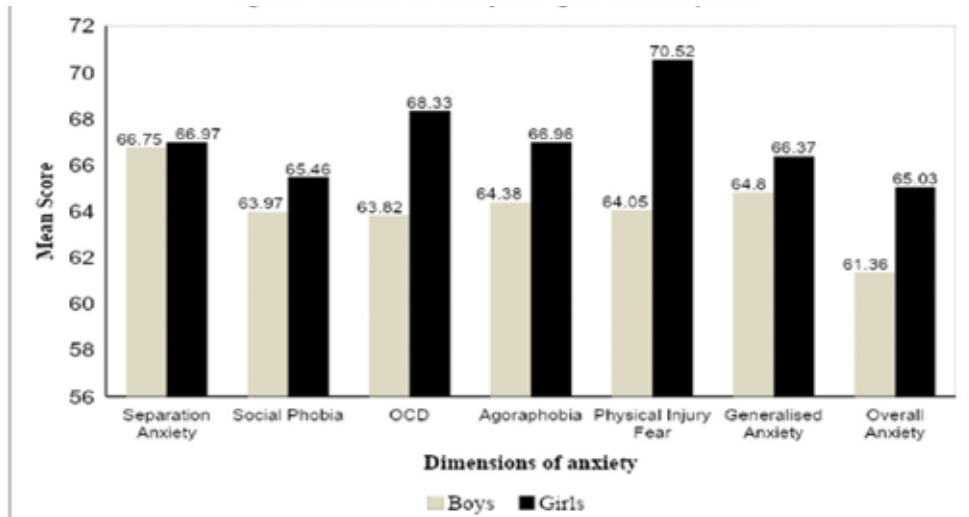


Figure 2 : Mean score of boys and girls on anxiety scale

Table 2 clearly indicates that there were no significant differences in the average score between girls and boys at primary level on separation anxiety (t-value=0.12, $p>.05$), social phobia (t-value=1.5, $p>.05$), agoraphobia (t-value=1.66, $p>.05$), generalised anxiety (t-value=1.14, $p>.05$) and overall anxiety (t-value=2.5, $p>.05$). Thus, the null hypothesis stands tenable. It was evident from obtained results that no gender differences were found in totality at the primary level and dimensions of anxiety, i.e., social phobia, agoraphobia generalised anxiety and separation anxiety. The findings are corroborative of the results of Ahmadi et al., (2016), where no gender differences were found. Further from Table 2, it can be viewed that boys and girls at the primary level differ significantly on obsessive-compulsive disorder (t-value=2.74, $p>.05$) and physical injury fear (t-value=3.98, $p>.05$) subscale of anxiety. The mean scores of girls (M=68.33) were found higher than that of boys (M=63.82) on the OCD subscale of anxiety. Similarly, the mean scores of girls (M=70.52)

are also above that of boys (M=64.05) on the physical injury fear subscale of anxiety. It can be concluded that compared to boys, girls are more likely to experience physical injury fear and obsessive-compulsive disorder. Thus, the null hypothesis is rejected. The finding is supported by Ishikawa et al., (2009), Essau et al., (2011), Zhao et al. (2012), Bakhla et al. (2013), Maria et al., (2016), Ahmadi, et al., (2016), Jalnapurkar et al., (2018) and Karande et al. (2018), who reported that women exhibit more anxiety disorder than men. The high anxiety among girls may be due to their hormonal changes during adolescence and their involvement in household chores. However, the result is contradictory to the findings of Bharti (2016), who finds that boys are more anxious than girls.

Association of Anxiety and Academic Achievement

Pearson correlation coefficient was used to ascertain the association between anxiety and academic achievement of primary students across gender, obtained results were presented below Table 3:

Table 3
Coefficient of Correlation (r) Between Anxiety and Academic Achievement

Group	r-value	p-value	Level of Significance
Boys	-0.3*	0.002	Significant at 0.05 level
Girls	-0.085	0.002	Not Significant
Overall	-0.091	0.19	Not Significant

In Table 3, the relation between anxiety and academic achievement of students at the primary level has been presented. According to Table 3, there is no apparent correlation between academic achievement and anxiety in girls and overall students at the primary level. However, a strong negative association was found between anxiety and academic achievement for boys at the primary level. It clearly shows that when there will be an increase in the level of anxiety among boys then their academic performance will decline and vice versa. Thus, the null hypothesis is partially rejected. The findings of Khesht-Masjedi (2019), and Bushra et al., (2021), support our findings. They stated that, anxiety is strongly negatively associated with the academic progress of students.

SUGGESTIONS

Within its constraints, the present study has significance for various education stakeholders. The study confirms that anxiety is hampering the level of academic achievement of students. Hence, the following suggestions are proposed so that the aforementioned stakeholders will have a strong basis to increase the level of academic achievement:

- Anxiety identification and detection at the school level are important as it predicts other psychopathological disorders in later life.
- Attention on screening,

identification and prevalence of anxiety is needed by the stakeholders of the school education system.

- The treatment and epidemiological studies done in India neglect anxiety disorders, particularly of children. Anxiety symptoms among primary students are one of the major issues in the social, emotional and intellectual development of a child.
- Early diagnosis would help the stakeholders of the school education system to manage the students for the long term academic and social development of children.
- Workshops on managing stress and anxiety during adolescence may act as a useful activity.
- Teachers should also be motivated to participate in capacity building programmes on managing anxiety.

CONCLUSION

This paper concludes that girls are more in number and percentage that have elevated anxiety at the primary level. However, the percentage of boys is more on subscales, i.e., separation anxiety and obsessive-compulsive disorder. In addition, the study finds no gender differences in anxiety cases, with the exception of subscales of anxiety connected to

obsessive physical injury fear and compulsive disorder. The findings clearly show that girls had higher levels of physical injury fear and obsessive-compulsive disorder than boys. As far as the association of anxiety with academic achievement is concerned, for all students, researchers discovered a link between anxiety and poor academic achievement at the primary level. For

boys in primary school, a significant inverse link between anxiety and academic achievement was also found. Therefore, it can be safely concluded that an increase in the anxiety level of boys results in a decline in their academic performance and vice versa.

REFERENCES

- AHMADI, ATEFEH, MOHAMED SARIF, MUSTAFFA, AMIRMUDIN UDIN, AND ALIAKBAR HOGHDOOST. 2016. 'DSM-IV-Defined Anxiety Disorder Symptoms in a Middle-Childhood-Aged Group of Malaysian Children Using the Spence Children's Anxiety Scale'. *Trends in Psychiatry and Psychotherapy*. Vol. 38, No.1. pp.14–22 (Accessed from <https://www.scielo.br/j/trends/a/8VMG3MymkpQrk5Ny6y5hcCt/?lang=e> on 10.12.2021).
- AMERICAN PSYCHIATRIC ASSOCIATION. 2013. 'Anxiety Disorders'. In *Diagnostic and Statistical Manual of Mental Disorders* (5th Ed.).
- BAKHILA, AJAY KUMAR, PRAKRITI SINHA, RAJIV SHARAN, YASHI BINAY, AND SUPRAKASH CHAUDHURY. 2013. 'Anxiety in School Students: Role of Parenting and Gender'. *Industrial Psychiatry Journal*. Vol. 22, No. 2. pp. 131–137. (Accessed from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4085805/> on 10.12.2021).
- BERG, I. 1992. 'Absence from School and Mental Health'. *British Journal of Psychiatry*. Vol. 161, pp. 154–166. (Accessed from <https://pubmed.ncbi.nlm.nih.gov/1521101/> on 13.12.2021).
- BHARTI, JAYA. 2016. 'Anxiety Among Up Board Students in Uttar Pradesh, India'. *International Journal of Indian Psychology*. Vol. 3, No. 2. pp. 115–121. (Accessed from https://www.researchgate.net/publication/346660802_Anxiety_among_Up_Board_Students_in_Uttar_Pradesh_India on 13.12.2021).
- DEB, SIBNATH AND KERRYANN WALSH. 2010. 'Anxiety Among High School Students in India: Comparisons Across Gender, School Type, Social Strata and Perceptions of Quality Time with Parents'. *Australian Journal of Educational and Developmental Psychology*. Vol. 10, pp.18–31.
- ESSAU CECILIA A., SATOKO SASAGAWA, XENIA ANASTASSIOU-HADJICHARALAMBOUS, BEATRIZ OLAYA GUZMAN AND THOMAS H OLLENDICK. 2011. 'Psychometric Properties of the Spence Child Anxiety Scale with Adolescents From Five European Countries'. *Journal of Anxiety Disorders*. Vol. 25, No.1. pp. 19–27.
- HARJULE, PRIYANKA, AZIZUR RAHMAN AND BASANT AGARWAL. 2021. 'A Cross-Sectional Study of Anxiety, Stress, Perception and Mental Health Towards Online Learning of School Children in India During COVID-19'. *Journal of Interdisciplinary Mathematics*. Vol.24, No. 2. pp. 411–424. (Accessed from <https://www.tandfonline.com/doi/abs/10.1080/0972>

0502.2021.1889780 on 13.12.2021).

- HOSSAIN, BUSRA, STEPHEN BENT, AND ROBERT HENDREN. 2021. 'The Association Between Anxiety and Academic Performance in Children with Reading Disorder: A Longitudinal Cohort Study'. *Dyslexia*. Vol. 27, No. 3. pp. 342–354 (Accessed from <https://onlinelibrary.wiley.com/doi/10.1002/dys.1680> on 13.12.2021).
- ISHIKAWA, SHIN-ICHI, HIROSHI SATO, AND SOTOKO SASAGAWA. 2009. 'Anxiety Disorder Symptoms in Japanese Children and Adolescents'. *Journal of Anxiety Disorders*. Vol. 23, No. 1. pp. 104–111. (Accessed from <https://www.sciencedirect.com/science/article/abs/pii/S0887618508000984> on 12.12.2021).
- JALNAPURKAR, ISHA, MELISSA ALLEN, AND TERESA PIGOTT. 2018. 'Sex Differences in Anxiety Disorder: A Review'. *Journal of Psychiatry Depression and Anxiety*. Vol. 4, No. 12. (Accessed from <https://www.heraldopenaccess.us/openaccess/sex-differences-in-anxiety-disorders-a-review> on 12.12.2021).
- KARANDE, S, NJ GOGTAY, N BALA, H SANT, A THAKKAR, AND R SHOLAPURWALA. 2018. 'Anxiety Symptoms in Regular School Students in Mumbai City, India'. *J Postgrad Med*. Vol. 64, No.2. pp. 92–97. (Accessed from <https://www.jpgmonline.com/article.sn=00223859;year=2018;volume=64;issue=2;spage=92;epage=97;aulast=Karande> on 12.12.2021).
- KESSLER, R C, FOSTER C L, SAUNDERS, AND PE STANG. 1995. 'Social Consequences of Psychiatric Disorders, I: Educational Attainment'. *American Journal of Psychiatry*, Vol. 152, No. 7 pp. 1026–1032. (Accessed from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.477.1539&rep=rep1&type=pdf> on 12.12.2021).
- KHESHT-MASJEDI, MANAZ. F, SOMAYEH SHOKRGOZAR, ELAHE ABDOLLAHI, BAHAREH HABIBI, TAHEREH ASGHARI, REYHANEH SABER OFOGHI, AND SABRA PAZHOOAN. 2019. 'The Relationship between Gender, Age, Anxiety, Depression and Academic Achievement among Teenagers'. *J Family Med Prim Care*. Vol. 8, No. 3. pp.799–804 (Accessed from <https://pubmed.ncbi.nlm.nih.gov/31041204/> on 15.12.2021).
- LAST, C G. AND C C STRAUSS. 1990. 'School Refusal in Anxiety-Disordered Children and Adolescents'. *Journal of the American Academy of Child and Adolescent Psychiatry*. Vol. 29, No.1. pp. 32–35.
- MINISTRY OF HUMAN RESOURCE DEVELOPMENT. 2020. *National Education Policy*. Government of India.
- . 2009. *Right to Education Act*. Government of India. New Delhi (Accessed from https://legislative.gov.in/sites/default/files/A2009-35_0.pdf on 12.12.2021).
- MUSKIN, PHILIP R. 2021. 'What are Anxiety Disorders?'. *American Psychiatric Association* (Accessed from <https://psychiatry.org/patients-families/anxiety-disorders/what-are-anxiety-disorderson> 15.12.2021).
- NATIONAL CRIME RECORDS BUREAU. 2020. *Accidental Deaths and Suicides in India 2020*. Ministry of Home Affairs, Government of India (Accessed from https://ncrb.gov.in/sites/default/files/adsi2020_Chapter-2-Suicides.pdf on 15.12.2021).
- NUÑEZ-PEÑA, MARIA ISABEL, MACRENA SUAREZ PELLICIONI, AND ROSER BONO. 2016. 'Gender Differences in Test Anxiety and their Impact on Higher Education Students' Academic Achievement'. *Procedia - Social and Behavioral Sciences*. Vol. 228, pp.32–35. (Accessed from <https://www.sciencedirect.com/science/article/pii/S1877042816309491> on 15.12.2021).
- SCHUTZ, PAULA AND REINHARD PEKRUN. 2007. *Emotion in Education*. Cambridge: Elsevier Academic Press.

- SPENCE, SUSAN H, PAULA M BARRETT, AND CYNTHIA M TURNER. 2003. 'Psychometric Properties of the Spence Children's Anxiety Scale with Young Adolescents'. *Journal of Anxiety Disorders*. Vol. 17, No. 6. pp. 605–625.
- SPENCE, S H. 1997. 'Structure of Anxiety Symptoms Among Children: A Confirmatory Factor-Analytic Study'. *J Abnormal Psychology*. Vol. 106, No.2. pp. 280–297.
- . 1998. A Measure of Anxiety Symptoms Among Children. *Behaviour Research and Therapy*. Vol. 36, No.5. pp. 545–566.
- . *Spence Children's Anxiety Scale* (accessed from <http://www.scaswebsite.com/> on 12.11.2021)
- SPIELBERGER, CHARLES D. 1972. *Anxiety: Current Trends in Theory and Research*. New York: Academic Press.
- STEIN, MURRAY B. AND YIN M. KEAN. 2000. 'Disability and Quality of Life in Social Phobia: Epidemiological Findings'. *Am J Psychiatry*. Vol. 157, No. 10. pp. 1606–1613 (Accessed from <https://ajp.psychiatryonline.org/doi/10.1176/appi.ajp.157.10.1606> on 12.12.2021).
- TOMB, MEGHAN AND LISA HUNTER. 2004. 'Prevention of Anxiety in Children and Adolescents in a School Setting: The Role of School-Based Practitioners'. *Children and School*. Vol. 26, No. 2. pp. 87–101 (Accessed from https://www.researchgate.net/publication/275858276_Prevention_of_Anxiety_in_Children_and_Adolescents_in_a_School_Setting_The_Role_of_School-Based_Practitioners on 15.12.2021).
- UDISE PLUS. 2020–2021. *Department of School Education and Literacy*. Ministry of Education, Government of India.
- ZHAO, JINXIA, XIAOPEI XING, AND MEIFANG WANG. M. 2012. 'Psychometric Properties of the Spence Children's Anxiety Scale (SCAS) in Mainland Chinese Children and Adolescents'. *Journal of Anxiety Disorders*. Vol. 26, No.7. pp. 728–736.

5

Teacher Attitude and Inclusion in Primary Education

Manoj Kumar Chutia*

Abstract

Inclusion is a term recently brought into use in education all over the world. This idea has evolved from the concept of equal educational opportunity to all children without any discrimination. It is an approach to bring all children including Children with special needs 'together under the same umbrella for educational purposes, so that children with disabilities can participate as fulltime learners in any neighbouring school with adequate support systems. However, teachers' positive frame of mind is essential for making inclusion effective and successful. In this paper an attempt has been made to study primary Teachers's Attitude Towards Inclusive Education (TASTIE).

INTRODUCTION

Disability is a ubiquitous occurrence in societies around the world. It is not constrained by a particular nation, race, religion or class rather a universal fact. Recently people are coming to realise that disability is universal and can happen to anybody and anytime. Keeping this consideration in mind one and all have to be sensitive enough about the various issues faced by disabled persons.

Inclusion is an approach adopted in education most recently in the world. After the UNESCO World

Conference on Special Needs Education held at Salamanca, Spain in 1994, inclusion became the most popular word in education. This idea has evolved from the concept of equal educational opportunity to all that allows children with disabilities to participate as full time learners in any school of the neighbouring community which was previously done by integration or segregation. But inclusion is a wider approach than integration or segregation in the educational field. The basic idea of inclusive education is to enable

*Assistant Professor, Department of Education, Nowgong Girls' College, Nagaon, Assam

all children to participate together in society that develops confidence in the minds of disabled and creates opportunities for the non-disabled to share academic and non-academic matters with their peers. UNESCO urges schools to accommodate all children irrespective of their physical, intellectual, emotional, social, linguistic and other conditions. More frankly, it talks about bringing all children irrespective of their degree of ability or disability under the same umbrella for educational purposes.

Inclusive education is a new educational approach that seeks to address the learning needs of all children. It is the process of strengthening the capability of the education system to reach out all learners together with an appropriate network of support services. Inclusive education is concerned with removing all barriers to learning, and with the participation of all learners vulnerable to exclusion and marginalisation (Devpura, 2020). In inclusive education, all students with or without disabilities are included in the mainstream education system with the feeling of belonging and respect among other students, teachers and support staff. Now education is made as a fundamental right to all children under the provisions of Right to Education Act, 2009. As a result, classrooms have been filled with more diverse students in terms of their needs and abilities. So, more and more classrooms are now witnessing the presence of children

with disabilities (Bharti, 2014). It is an approach to address the learning needs of all children, youth and adults with all specific focus on those who are vulnerable to marginalisation and exclusion (Chandran, 2020). Therefore, teachers have to transform their methodologies in the classrooms to address these diverse issues including their attitude.

Teacher and Inclusiveness in Education

Teachers are the backbone of a nation as the destiny of a country is being shaped in the hands of teachers. They are considered as genuine architects of moulding our growing generations in classrooms. They have to play multifaceted roles in the field of education in general and inclusive education in particular. Teachers have to take utmost care and dedication for making inclusive education effective, pragmatic and successful.

Apart from multifaceted roles of teachers, their favourable attitude towards inclusive education is the need of the hour for successful implementation of the idea of inclusion. While talking about the teachers' responsibility on inclusive education it has been noticed that there is a great shortage of trained special teachers who can assist children with special needs in schools. National Education Policy 2020, is aiming to prepare an additional group of special teachers for certain areas of education specially for school level. Keeping the shortage of special teachers in mind, it is the

need of the hour to make all teachers capable of meeting the needs of special children along with other children and so, special training programmes should be arranged for reaching the needs of special children. National Education Policy, 2020 envisages that special emphasis should be on training and recruiting of teachers who will be able to teach in an inclusive classroom (Mishra, 2021).

REVIEW OF RELATED LITERATURE

While investigating the problem, the following related literature has been reviewed.

Farida Kurniawati et. al., (2012) found that teachers are in favour of inclusion and their attitude seems to be related to their teaching experiences and training in special education.

Shane Costello and Christopher Boyle (2013) found that pre-service secondary teachers held positive attitudes towards inclusive education; however, there was a significant decline in positive attitudes through the years of study. Pre-service secondary teachers enrolled in postgraduate programmes were more inclusive than those enrolled in undergraduate courses.

Sneh Bansal (2016) found significant differences in the attitude level of teachers with particular reference to school type, educational qualifications and professional experiences. It has also been found that there is a significant positive

correlation between the attitude of teachers towards inclusive education and professional commitment. The correlation value of total attitude towards inclusive education with dimension-wise professional commitment for teachers also indicates more or less similar trends, though the correlation value of commitment to basic human values with total attitude towards inclusive education is not significant.

Anil Kumar (2016) noticed a significant difference in the attitude of teachers in relation to their teaching level, gender, residence and experience. The findings suggest that the university and female teachers appeared to hold more positive attitudes as compared to school and male teachers.

Kumar and Singh (2020) observed a moderate to favourable level of attitude among teachers towards inclusive education. Pre-service and urban teachers had a more positive attitude towards inclusive education in comparison to the attitude of in-service and rural teachers, respectively. No significant difference has been found between the attitude of male and female teachers towards inclusive education.

SIGNIFICANCE OF THE STUDY

Disability is common to humans and yet disabled are considered as inferior. Over the years disabled were kept away from the normal education system and put in some

designated special schools. Thus, they were not equally treated as other children in the society particularly for educational purposes. In recent times inclusion has become known in education to teach all children together in a common platform without any discrimination where teachers have to play a very prominent role in making inclusion effective and successful. For attaining the goals of inclusion apart from normal duties, teachers have to alter their mental makeup on disabled as the most challenging responsibility of inclusion. In this study a sincere investigation has been undertaken to look at the mental framework of primary teachers towards inclusive education.

PROBLEM STATEMENT

The problem of the present study is 'Teacher Attitude and Inclusion in Primary Education.' Here, primary teachers implied those who are working in different lower primary schools in Nagaon sub-division.

OBJECTIVES OF THE STUDY

- To study the attitude level of primary teachers towards inclusive education.
- To study the attitude towards inclusive education in terms of teachers' qualification.
- To compare the attitude of primary teachers towards inclusive education in terms of experience.
- To study the gender difference on various aspects of inclusive education, i.e.,

- (a) Behavioural and psychological aspects
- (b) Social and parents related aspects
- (c) Curricular and co-curricular aspects, and
- (d) Administrative aspects

HYPOTHESES OF THE STUDY

- Attitude level of primary teachers towards inclusive education is favourable.
- There is no significant difference in attitude towards inclusive education in terms of teachers' qualifications.
- There is no significant difference in attitude towards inclusive education in terms of teachers' teaching experience.
- There is no significant gender difference in attitude of teachers towards different dimensions of inclusive education, i.e.,
 - (a) Behavioural and psychological aspects
 - (b) Social and parents related aspects
 - (c) Curricular and co-curricular aspects, and
 - (d) Administrative aspects

DELIMITATIONS OF THE STUDY

- This study is restricted to lower primary teachers only.
- This study is confined to Nagaon sub-division only; hence the findings can't be generalised to other areas.

- It is restricted to the attitude of lower primary teachers towards inclusive education.
- This study is restricted to academic qualification of teachers, teaching experiences and gender on inclusive education.

with three alternatives each in four areas altogether. The areas are— i) psychological and behavioural, ii) social and parents related, iii) curricular and co-curricular and iv) administrative. The scale was found to have content and intrinsic validity. The test-retest reliability coefficient was found 0.82.

METHODS

Sampling Procedure

A total of 198 primary teachers were selected randomly from various lower primary schools of Nagaon sub-division among whom 92 male and 106 female teachers. From these 88 teachers have more than 5 or years teaching experience and 110 have less than five of them, 115 were graduates and 83 were senior secondary qualified teachers.

Research Tool Used

The research tool used in this study was Teacher’s attitude scale towards inclusive education (TASTIE) prepared by Dr. Vishal Sood and Dr. Arti Anand. The scale has 47 items

Data Collection

Descriptive survey method was applied to collect data for this study. The investigator personally approached the sampled teachers and asked them to respond to all items as per the guidelines attached therewith.

Statistical Techniques Used

Collected data were analysed by applying descriptive as well as inferential statistics. Statistical techniques like simple percentage, Mean (M), Standard deviation (σ) and ‘t’ tests were applied to test the hypotheses.

RESULT AND DISCUSSION

The results of the study are illustrated in the following tables—

Table 1
Attitude Level of Primary Teachers Towards Inclusive Education

	Extremely favourable	Most favourable	Above average favourable	Moderate	Below average unfavourable	Most unfavourable	Extremely unfavourable
Percentages of teachers	3.03	27.27	48.99	20.71	0	0	0

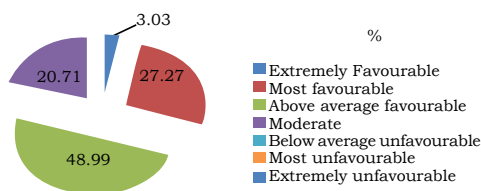


Figure 1: Graphical representation of attitude level of primary teachers towards Inclusive Education

From the table and figure above, it has been revealed that the attitude level of primary teachers towards inclusive education has been found moderate to extremely favourable.

Altogether 3.03 per cent of the teachers have shown extremely favourable attitude towards inclusive education whereas 27.27 per cent have shown most favourable attitude, 48.99 per cent have shown above average favourable attitude, and 20.71 per cent have shown moderate attitude. However, not a single teacher exposes a negative or unfavourable attitude towards inclusive education. Similar findings have also been found by Singh et al., (2020), Kurniawati et al., (2012) Belapurkar & Phatak (2012), Costello & Boyle (2013).

Table 2
Significance of Difference in Attitude Towards Inclusive Education of Primary Teachers on the Basis of their Teaching Experience

Teaching Experience	N	M	'σ'	df	't'	Sig. (2-tailed)	Remark
Less than 5 years	110	110.48	7.96	196	0.72	1.97	NS
More than 5 years	88	111.32	8.38				

Significant level is at $P < 0.05$

The 't' value while comparing the significance of difference in attitude towards inclusive education between the group of primary teachers having more than five years and less than five years of teaching experience is found 0.72 ($t = .72 < .05$), which is lower than the table value at 5 per cent level of significance and therefore, cannot reject the null hypothesis. It indicates that there is no significant difference in attitude of teachers towards inclusive education

between the groups based on their teaching experiences. Therefore, it can be said that primary teachers have similar kind of attitude irrespective of their length of services towards inclusive education. This might be the cause of teaching inclusive education as an important content in various short and long-term teacher and training programmes from which teachers develop some positive vibes towards inclusive education.

Table 3
Significance of Difference in Attitude Towards Inclusive Education Among Primary Teachers Based on their Qualification

Qualification	N	M	'σ'	df	't'	Sig.(2-tailed)	Remark
Senior Secondary	83	110.67	8.72	196	1.15	1.97	NS
Graduation	115	112.07	8.06				

Significant level is at P<0.05

Table 3 shows the mean scores and 't' value of attitude towards inclusive education of primary teachers having senior secondary and graduation as their academic qualification. It is apparent from the results that there is no significant difference ($t = 1.15 < .05$), in attitude towards inclusive education between

the group of teachers based on their academic qualification at 5 per cent level of significance. Therefore, it can be said that primary teachers having senior secondary and graduation as their academic qualifications have a similar kind of attitude towards inclusive education. This result resembles the findings of Bansal (2016), Kern (2006), etc.

Table 4
Significance of Difference in Attitude Towards Different Dimensions of Inclusive Education Between Male and Female Primary Teachers

Dimensions	Male (N=92)		Female (N=106)		't' value	Remarks
	M	'σ'	M	'σ'		
Behavioural/ Psychological	24.87	3.77	25.59	3.17	1.47	NS*
Social and Parents Related	30.03	3.94	30.57	3.16	1.06	NS*
Curricular and Co-Curricular	28.78	4.15	30.75	3.05	3.72	S**
Administrative	26.48	4.83	24.68	3.18	3.05	S**

**Significant level is at P<0.05*

*** Significant level is at P>0.01*

Table 4 reveals the value of 't' for various dimensions of inclusive education of male and female primary teachers. While comparing the significance of difference of male

and female primary teachers on behavioural as well as social and parents related aspects of inclusive education, the 't' has been found 1.47 and 1.06 respectively ($t < .05$), which

are lower than the table value at 5 per cent level of significance. Thus, it indicates that there is no significant difference in attitude towards behavioural as well as social and parents related aspects of inclusive education between male and female primary teachers. Thus, irrespective of their gender, primary teachers have a similar kind of attitude towards behavioural and social and parents related aspects of inclusive education. It resembles the findings of Singh et al., (2020), Kern (2006), etc.

On the other hand, the 't' values while comparing the significance of difference of male and female primary teachers towards curricular and co-curricular as well as administrative aspects of inclusive education have been found 3.72 and 3.05 respectively ($t > .01$), which are greater than the table value at 1 per cent level of significance. The results indicate that there exists significance of difference in attitude towards curricular and co-curricular as well as administrative aspects of inclusive education between male and female primary teachers. It means that male and female teachers are different in their attitude towards different managerial provisions, administrative commitment, infrastructural facilities, architectural modifications, flexibility in evaluation, overcoming challenges, teacher training provisions and their utility in inclusive education. Thus, gender difference in attitude has been observed with particular reference to curricular and co-curricular and administrative aspects of inclusive

education. This finding resembles the findings of Kumar (2016).

MAJOR FINDINGS

The major findings of the study are as follows—

- Attitude of primary teachers towards inclusive education is found moderate to extremely favourable.
- The average attitude score towards inclusive education of teachers having more than five years of teaching experience is a bit higher than teachers having less than five years teaching experience.
- The average attitude score of graduate primary teachers towards inclusive education edges over primary teachers having senior secondary qualification.
- No teacher has shown below average unfavourable to extremely unfavourable attitude towards inclusive education.
- No significant difference has been observed in attitude towards inclusive education among primary school teachers on the basis of their teaching experience.
- No significant difference has been found in attitude towards inclusive education among primary teachers on the basis of their academic qualification.
- Regarding behavioural, social and parents related aspects

of inclusive education no significant gender difference has been observed.

- Significant gender difference has been observed in attitude towards curricular and co-curricular as well as administrative aspects of inclusive education.

Implications and Suggestions

From the study the following suggestions and implications can be made—

- This study would be helpful for learning the attitude of primary teachers towards inclusion in education along with its different aspects.
- Inclusive education should be widely and comprehensively included in all forms of teacher training (in-service and pre-service) programmes at various levels of education.
- It would help researchers to go beyond the attitude of primary teachers towards inclusive education.
- Parents, guardians, society and teachers are primarily responsible for making inclusion successful. So, general orientation or awareness programmes should be

regularly arranged for all concerned.

- Special teachers in particular and other teachers in general should learn, understand and develop a positive frame of mind towards inclusive education.

CONCLUSION

Inclusion is one of the most popular words applied in the field of education around the globe in recent years. Previously segregation was the only mode of imparting education to children with special needs, but today that has been replaced by inclusion which aimed to bring all children in a common platform to educate them under the same roof. Teachers' role in educational institutions is very important to make inclusive settings more effective and interesting. So attention should be paid to prepare competent teachers so that they can facilitate inclusive practices in classroom settings. Adequate knowledge and training, competency, problem management skills, collaborative support and most importantly the positive attitude of teachers are very imperative for creating an inclusive culture and cooperative learning environment in schools to make inclusion more pragmatic, otherwise the dream of inclusion will remain far from its objectives.

REFERENCES

- BANSAL, SNEH. 2016. 'Attitude of Teachers Towards Inclusive Education in Relation to their Professional Commitment'. *Indian Journal of Educational Studies: An Interdisciplinary Journal*. Vol. 3, No. 1. pp. 96–108

- . 2014. Children with Learning Disabilities-Teaching Effective Coping Strategies. *The Primary Teacher*. Vol. 39, No. 3. pp. 57–69.
- BELAPURKAR, A. M AND PHATAK, S. V. 2012. 'Knowledge and Attitude About Inclusive Education of School Teachers: A Study'. *Scholarly Research Journal for Interdisciplinary Studies*. pp. 5–9.
- BHARTI. 2014. 'Collaboration in Inclusive Education'. *The Primary Teacher*. Vol. 39, No. 3. pp. 70–78.
- BHATNAGAR, N. AND DAS, A. 2014. 'Attitude of Secondary School Teachers Towards Inclusive Education in New Delhi, India'. *Journal of Research in Special Educational Needs*. Vol. 14, No. 4. pp. 255–263.
- CASSADY, JENNIFER M. 2011. 'Teachers' Attitudes Toward the Inclusion of Students with Autism and Emotional Behavioral Disorder'. *Electronic Journal for Inclusive Education*. Vol. 2, No. 7. pp. 1–24.
- CHANDRAN, A. V. R. 2020. 'Inclusive Education: Challenges, Provisions and Strategies'. *Edutracks*. Vol. 20, No. 1. pp. 34–38.
- COSTELLO, SHANE. AND CHRISTOPHER OYLE. 2013. 'Pre-Service Secondary Teachers' Attitudes Towards Inclusive Education'. *Australian Journal of Teacher Education*. Vol. 38, No. 4. pp. 129–143.
- DEVPURA, V. 2020. 'Meeting the Challenge of Inclusion: Strategic Implementation'. *Edutracks*. Vol. 19, No. 10. pp. 12–14.
- FRANCIS, DENNIS AND NITHI MUTHUKRISHNA. 2004. 'Able Voices on Inclusion/Exclusion– A People in their Own Words'. *International Journal of Special Education*. Vol. 19, No. 1 pp. 107–117
- KUNIAWATI, FARIDA, ALEXANDER MINNAERT, FRIEDA MANGUNSONG, AND WONDIMU AHMED. 2012. 'Empirical Study on Primary School Teachers' Attitude Towards Inclusive Education in Jakarta, Indonesia'. *Procedia - Social and Behavioral Sciences*. Vol. 69, pp 1430–1436.
- KAKKAR, NIDHI. 2014. 'Teachers' Attitude Towards Inclusive Education'. *International Educational E-Journal*. Vol. 3, No. 2. pp. 165–171.
- KERN, EVANGELINE. 2006. *Survey of Teacher Attitude Regarding Inclusive Education Within an Urban School District*. Ph.D. Dissertation. Philadelphia College of Osteopathic Medicine https://digitalcommons.pcom.edu/psychology_dissertations/70/
- KUMAR, ANIL. 2016. 'Exploring the Teachers' Attitudes Towards Inclusive Education System: A Study of Indian Teachers'. *Journal of Education and Practice*. Vol. 7, No. 34. pp. 1–4.
- MINISTRY OF HUMAN RESOURCE DEVELOPMENT. 2020. *National Education Policy*. Government of India.
- MISHRA, P. 2021. 'Inclusive Education in International Perspective and National Education Policy'. *Edutracks*. Vol. 20, No. 6. pp. 8–14.
- SINGH, SHIBHA, KUMAR SAURAN, AND RANJAN KUMAR SINGH. 2020. 'A Study of the Attitude of Teachers Towards Inclusive Education'. *International Journal of Education*. Vol. 9, No. 1. pp. 189–197.

6

Developing Foundational Stages of Child: Issues, Challenges and Preventions

Tripti Singh*

Varinder Singh**

Abstract

Early childhood is the time of immense changes in cognitive affective and psychomotor development of a child. This stage of development focuses on critical problems and issues that a child faces and never discloses easily to anybody. This is the period in which the holistic development of a child depends on various factors and different stakeholders. There is a big gap in the learning and skills of a child as some are taught these things in schools whereas some are trained at home beforehand. This paper examines the current issues and challenges in Early Childhood Care and Development. This paper also provided a guide to the stakeholders to understand the modalities of ECCD. It also deals with certain solutions and both short term and long-term remedies that can improve the status of Early Childhood Care and Development. This paper examines the crucial question of what can be done further for early childhood care and development. The authors believe that this paper could serve as a guide to various institutions and may invoke apex bodies to look at current issues and challenges pertaining to ECCD.

INTRODUCTION

A child's early years provide an opportunity to create a foundation for the future. It is a period of great promise and rapid change. During this period, a child's physical, social, emotional, cognitive and language development is in leaps and bounds. A child needs an optimum environment, nutrition, and

proper stimulation in the early years to facilitate the harmonious development of the child. Even before the age of six, 85 per cent of a child's cumulative brain develops. It directly indicates the significant importance of stimulation and care of a child's brain in the early years. India is a very rich country with an overall population of 1.38 billion approximately. According to the 2011

*Research Scholar School of Education Central University of Gujarat, Gandhinagar

**Research Scholar School of Education Central University of Gujarat, Gandhinagar

Census, the Child population (0–8 years) was recorded as 158.8 million, which is an increase of about 88 per cent to the overall population. With such a large child population, policies must be made in such a way that they cater to the needs of those children. The National Educational Policy, 2020 also emphasises the importance of Early Childhood Care and Development, as its major objective is to provide free, safe, and high-quality appropriate care and education to every child in the age group of 3–6 years by 2025.

Several studies have emphasised that Early Childhood Care and Education programme have long term effects on children’s academic achievement, attendance, and grade retention, (Cortazar et al. 2019), (Barnett, 1995), (Dean and Jayachandran, 2019). Therefore, children at the primary level must have access to multifaceted, activity-based, and discovery-based education to strengthen the foundation for the future. There are many kinds of issues which a child is facing, and our education system is both the cause and effect of current societal divides—Equity, Access and Quality.

There are several challenges involved in Early Childhood Care and Development. Some of them are discussed below:

Shortage of Early Childhood Education Staff

School staff have a direct impact on children’s cognitive affective, and psychomotor development.

No other person in students’ lives impacts developing attitudes towards cultural diversity. There are significant staff shortages in primary schools found in India. It may be due to several contributing factors. An ageing workforce is a major factor; it indicates no new recruitment after the retirement of old teachers. Such a type of imbalance leads to a shortage of teachers in the primary education sector that directly affects the child’s education. Academic performance of students is directly correlated with the teacher’s expertise and teaching competency.

Comparatively Low Salaries of Primary Teachers and Lack of Opportunities in Rural Areas

The working conditions are equally important as an integral part of teachers’ education and training program. The motivation and encouragement the staff gets from the workplace influence their performance and behaviour. But the salary, the primary teachers get is quite low, which does not motivate them to perform well. The staff appointed in rural areas feel isolated, as they are far away from the social, technological opportunities available in urban areas. The teachers feel that they do not have professional opportunities to grow. Teacher development programmes, training courses, seminars, and workshops are usually unavailable in rural settings. Moreover, there has been a deduction in the expenditure on education from 4.14 per cent in

2014–2015 15 to 3.2 per cent in the year 2020–21. (Economic Survey, 2019–2020). The National Policy on Education 1968 recommended spending 6 per cent of GDP on education. Furthermore, NEP 2020 confirms the proposal of expanding public investment in education to 6 per cent of GDP. In addition to this, high variations are found in the expenditure on education especially at pre-primary and primary levels between urban and rural areas. The average expenditure per student at primary level in rural areas was ₹3,545 whereas, it was ₹13,516 in urban areas (Household Social Consumption on Education in India Report, 2020).

Challenges in Dropping off and Picking up Children from School

The distance to school can be long and unsafe for some students. It is the reason why some parents refuse to send their children, particularly girls, to school. As per the data released by the National Crime Records Bureau 1,28,531 crimes against children were reported in the year 2020 (NCRB, 2020). It is observed that usually children go to school alone and some are allowed to go in the company of other children. This entails the risk of being hit by speeding vehicles, bullying by older children, and kidnapping. Some parents pick up their children very late from school. Some children do not find anyone at home when they go home to look after them. In India, over 165 children die every day because of an unintended injury.

Nearly 41 per cent of all fatal injuries to children occur on roads followed by 31 percent occurring at home (NIMHANS, 2019). Therefore, in the absence of surveillance, children are more prone to accidents. And if accidents are not prevented, they can cause disability or in some cases death. Moreover, psychological and emotional trauma can result in a lack of self-esteem which can lead to poor social, physical and academic performance.

Unsafe and Insecure School Environment

The facilities in some primary schools are not conducive to enhancing learning. According to the National Report on Safe and Secure School Environment, 2019–2020, out of 26,071 Schools across India, randomly selected for the survey, it was found that 20 per cent of the schools had old or dilapidated buildings. 19 per cent of schools were found near the railway track. Not only this, only 30 per cent of government schools had transportation facilities for children. Also, only 66 per cent of schools have the required number of classrooms (National Report on Safe and Secure School Environment, 2019–2020).

In addition to this, many Indian classrooms do not have adequate space, which leads to children being squeezed in small classrooms. This results in an inefficient teaching-learning process and the child is unable to put questions to the teacher. And so the teacher is unable to solve individual queries and to look

after the children individually. The other physical infrastructure such as water tanks, toilets, playgrounds are not adequate and properly located. Some classrooms usually lack safe roofing, doors, windows, flooring, and adequate ventilation. The benches and chairs are not child-sized and age-appropriate. The playgrounds are usually unsafe as they are not free from harmful plants, discarded materials and sharp objects. Even the school camps, in some cases, do not have outer boundary walls, lockable gates and gatekeepers to prevent children from sneaking out of school without the teacher's permission.

Challenges Concerning Water and Sanitation

Even though our education ministry has frequently encouraged states and Union Territories to guarantee that all schools within their jurisdiction have access to safe and adequate drinking water. Still, there are 72,849 schools in India that do not have functional drinking water facilities (UDISE+, 2021). The insufficient water and sanitary facilities can cause damage to the health and development of children. Many primary schools have an unsafe water supply that increases the risk of infectious diseases. Moreover, the lack of sanitisers and unsanitary toilets leads to infections in children. Thus, unsafe water, lack of sanitation and hygiene in schools can affect child health, attendance and retention, as well as the performance of the child.

The polluted drinking water gives birth to water-borne diseases such as cholera, diarrhoea and skin infections.

Challenges for School Feeding Programs

Primary schools in India are required to provide mid-day meals to children in order to ensure a balanced diet. It is observed that some children come to school without having eaten due to their parent's neglect or low socio-economic status. Pradhan Mantri Poshan Shakti Nirman (PM POSHAN) programme earlier known as the National Programme of Mid-Day Meal is one of the important rights-based centrally sponsored schemes under the National Food Security Act, 2013 (NFSA). The scheme's main goal is to enhance the nutritional status of pupils studying in Classes I–VIII.

Although schools are provided food grains, one thousand rupees per month for 10 months for honorarium to cook-cum-helper, kitchen devices and cooking cost, etc., the cooking cost includes the cost of ingredients, e.g., pulses, vegetables, cooking oil and fuel. ₹4.97 per child per day is provided for primary and ₹ 7.45 for upper primary (PM-Poshan, 2021), but due to rising cost of vegetables, edible oil, and gas, many schools struggle to provide meals. The prices also vary from district to district, but schools get fixed amounts for all. Moreover, the people dealing with food do not have valid medical certificates from a recognised government

hospital. They do not even cover their hair and put on an apron to ensure proper hygiene which is likely to pose a health risk to children.

Poor Financial Condition of Parents

Parents are one of the most significant and determining factors in a child's life. Parents' socio-economic status is one of the frequently stated variables that has a significant correlation with pupils' academic success, (Eshetu, 2015). Parent's economic conditions have a relatively high influence on students' academic performance compared to other determinants. The families with high socio-economic status often have more success in preparing their young children for school (Al-Matalaka, 2014).

In contrast, parents from low socio-economic backgrounds sometimes struggle to increase their financial resources and find themselves short on time when it comes to teaching their kids morals, etiquette, and good values. This can even lead to children going without the basic nutrition or immunisations, (Osonwa et al., 2013). A multi-dimensional poverty rate of 16.4 per cent was reportedly present in India as of 2021, while another 18.7 per cent of the population (2,60,941 thousand in 2020) is categorised as vulnerable to multi-dimensional poverty. Over 13 million children between the ages of 10 and 14 who were affected by

poverty in 2022 (Multi-Dimensional Poverty Index, 2022).

Parental Attitude

The most reliable indicator of a child's educational success is family participation. Children's access to ECEC is correlated with parents' attitude toward ECEC which, in turn, is influenced by the parents' level of education (Ghosh & Steinberg, 2022). The attitude of many parents is favorable, despite the government's efforts to provide free education to all (Samal, 2012 & Balaji, 2018).

Numerous social stereotypes, traditions, and expectations limit girls' access to education in general and higher education in particular. The seclusion and veiling of women, as well as the notion that women and men live in distinct worlds, are ancient traditions and beliefs. The early marriage of women and the futility of investing in their education play a big role in how parents, especially illiterate parents, feel about education (Bordhan, 2014). Moreover, children whose parents do not attend parents-teachers' meetings, do not discuss their academic success with the teacher, and do not oversee their homework, are more likely to drop out of school (Paul, Rashmi & Srivastava, 2021).

Toxic Stress and Lack of Motivational Programme

Long exposure to high-level anxiety from violence, deprivation, trauma or

neglect is called toxic stress, and it can have devastating psychological and physical consequences for children. Trauma can affect the learning ability of a child and his ability to stay in school. At the primary stage, the child needs to be motivated from time to time so that their output can be enhanced efficiently. But still, there is a lack of motivational programmes in schools.

Curriculum Load

Many pre-schools, both government and private, end up encouraging rote learning to get children ready for Class I, which is detrimental for their entire development and puts an unnecessary curriculum load on them (Behera & Malik, 2019). Children feel great pressure, being burdened with undesirable expectations and boring classroom practices. The load of the curriculum does not allow children to learn freely and happily. The curriculum structure is so heavily loaded for the children at an elementary stage that they find it difficult to express them. The burden of formal education is so much that the parents send their wards to private tuition centres. In India, 95 per cent of high school students and 87 per cent of primary school students take private tuitions (Mascarenhas, 2015). The extra classes put more burden on children, and they do not get time to involve themselves in any kind of indoor or outdoor activities.

Lack of Co-ordination among Different Agencies

Early Childhood Care and Education services are provided by numerous programmes, primarily in the areas of education, health, nutrition and social welfare. It's nonetheless challenging to translate intersectoral action into practical application at various levels. Collaboration among different agencies is often affected by the vertical organisation of sectors, entrenched thinking, and a limited utilisation of resources merely within a certain area or programme. In such situations, it is challenging to guarantee accountability for service delivery and gauge results and impacts. There are still gaps in the co-ordination of nurturing care for ECD, despite the frontline workers' important contribution to improvement. Overwhelming workloads, constrained accountability to sectoral outcomes, and constrained supervisory mechanisms are issues that affect all levels (Agrawal et al., 2021).

Working Parents and Single Parent Families

In urban areas of India, 69.1 per cent of men and 20.6 per cent of women are employed (Periodic Labour Force Survey, 2023). For a child's brain development and long-term physical and mental health, some early childhood stages are crucial and sensitive, (Thompson et al., 2010). Parents involved in their jobs spend less time with their children, which is another major issue. Children do not

feel comfortable and hence they do not share what they feel, what they are going through or what they may have suffered in the past. It leads to a communication gap at the early stage, which takes its own time to be filled later. It leads to a stubborn and aggressive nature in children. They do not take an interest in the day-to-day issues of their children. Single parents find it hard to take care of the child in the initial stage of development. Single parenthood has emerged as a clear risk factor for children's mental health issues, leading to greater psychological distress and depression (Malik & Irshad, 2012).

Bullying and Teasing

Bullying is a public health issue that has an impact on children's physical and emotional health (Francis et al., 2022). Although peers are vital for socialisation, peers can also be a significant source of stress. Peer maltreatment includes deliberate social isolation, physical or verbal abuse. It may also include arguments that end up in violent activities. All such high doses of undesirable behavior are the result of television, video games, domestic violence, society and environment, etc. Bullying has been linked to a variety of physical and mental health issues, including depression and anxiety, a higher risk of self-harm, attempted suicide, poor academic performance, and crime and delinquency.

Multicultural Classroom

Language barrier is another challenge in the teaching-learning process, as it generally exists between teacher and student when students or teacher do not belong to the local area. It becomes very difficult for the learner to grasp the concepts taught in another language. As the instructional medium should be the mother tongue, it becomes difficult for a teacher to make them understand the concept in their regional language. Children from different regions suffer from this problem as they face difficulty in understanding a language other than their mother tongue. At the same time, this raises a question on teachers and teaching competency.

Lack of Training for Teachers

There is a lack of competent educators for early childhood education. This is because of defects in stage-specific professional training and career mapping. There is no provision for continuous professional development programmes to enable them to carry out effective early childhood teaching-learning practices. Teachers are not trained for play-based and multilevel teaching to 3–8 years old students. They are not provided with good educational material as per the curricular and pedagogical requirements. They are not trained properly to teach students in their mother tongue or regional language. Untrained teachers do not feel confident to teach their students

with that zeal compared to the trained teachers. Lack of knowledge results in poor remuneration among teachers.

Inclusion Issue and Biasness of a Teacher

Sometimes, there are situations when all children are not included in certain co-curricular activities in school. And in certain situations, individual attention is not given which they need from the respective teachers. This often bridges the gap between students and among the group of students and teachers.

Gender Equality Issues and Discrimination

It has been seen that in certain cases, right from birth, boys and girls are differentiated and different expectations lead to gender inequality. In schools also, this practice of differentiation and discrimination often leads to inflexible mindsets.

Effect of Media

Media plays a very important role in the mindsets of small children. They get influenced by what they see on television or the internet. Children become aggressive and more rigid in their lives. High exposure to media and excessive usage of electronic gadgets at the initial stage have adverse effects on the health of children. The over-dependence on media results in weak bonding between parents and their

children as they spend more time using gadgets.

Child Prostitution, Child Trafficking and Sexual Violence

One of the most inhuman criminal actions in the modern era of human civilisation is the trafficking of children. Every day, hundreds of children disappear throughout India. A total of 63,407 children were reported missing in 2016, 63,349 children were reported missing in 2017, and 67,134 children were reported missing in 2018 (National Crime Records Bureau, 2019). The trafficked children are made to engage in inhuman activities such as terrorism, prostitution, slavery, cheap or unpaid labour and organ harvesting (Boruah & Roy, 2021). In addition to this 30 per cent of 20 million prostitutes in India are minors (Panda & Singh, 2021). Children are the most suitable targets because they are among the most vulnerable populations that traffickers frequently prey upon. Teenage girls between the ages of 12–18 are an easy target for pornographic and prostitution rackets (Sehanobi, 2021).

Child Labor

Despite various acts and policies, child labour is a serious problem. One in five children in the world's poorest nations serve as child labour (UNICEF, 2022). These children are too young to engage in risky activities that harm their

mental, physical, social, or academic development. Moreover, 160 million children work as child labour around the world, 79 million of them are engaged in dangerous work. Also, boys are more prone to child labour than girls at every age (International Labor Office & United Nations Children’s Fund, 2021). According to the 2011 Census, 259.6 million children in India are between the ages of 5–14. Of these, 10.1 million (3.9% of all children) are employed as “main workers” or “marginal workers.” Additionally, almost 42.7 million kids in India do not attend school. The problem of child labour continues to pose a challenge before the nation.

Ineffective Implementation of Policies and Programme

There is an urgent need to convince politicians, policy-makers, educators, and programmers to work more effectively on the implementation of ECCE as there are so many loopholes, and it needs to be corrected for the smooth functioning of the administration and the organisations.

IMPROVING PRACTICES IN EARLY CHILDHOOD CARE AND DEVELOPMENT

- It is suggested that there is a need to establish a system to cope up with the emerging childcare issues and problems of children. The National Education Policy, 2020 has emphasised that the pupil-teacher ratio should be 30:1.

But still there are some states and UTs like Bihar (57:1) and Delhi (33:1) where the pupil teacher ratio is higher.

- The curriculum should be child-oriented and learner-friendly. There should be an efficient use of suitable teaching aids for the teaching-learning process in a classroom. There should be flexibility in the programme concerning societal needs.
- Multilingual skills must be instilled at the foundational year. Multilingualism is an asset that should be cultivated in our classrooms. Child’s home language may be different from the medium of instruction at school. The class teacher must incorporate children’s home languages. Adequate space and time must be provided for the children so that they can freely use their languages to think and express themselves.
- There is a strong need to change instructional patterns from formal teaching to more child-friendly instructions and to create a more conducive environment for the children.
- Counseling activities should be organised regularly, both for students and teachers.
- There should be a provision of required resources to achieve learning outcomes.

- Teacher vacancies for primary schools should be filled as early as possible, particularly in deprived areas and schools with large pupil-teacher ratios. Moreover, more weightage should be given to employing local and female teachers. The teacher-student ratio should be maintained in a classroom for an effective teaching-learning process.
- All the facilities should be provided in the schools concerning indoor and outdoor games as well as the other activities.
- Parents and school staff must be aware of children's safety and security while going to and coming from school.
- To ensure a safe, clean and healthy environment for learners, the school should understand legal and moral responsibility. The school staff and parents should identify a health and nutrition programme as a strategy to reduce health-related issues of children that can affect a child's learning.
- A school should be a place that is free from any type of physical harm, danger, disease, or injury.
- The child's nutrition as well as mental and physical health should be seriously addressed by providing healthy meals and the provision of counselors and social workers in the school.
- Regular assessment should be implemented especially at all levels in schools with the purpose of evaluating each student's progress, recognising the weaker points, and developing individualised learning plans for students.
- All stakeholders must function wholeheartedly for the young minds to grow into healthy human beings- both mentally and physically, as well as responsible citizens.

REFERENCES

- ABDULLAH, ANNA CHRISTINA. 2009. 'Multicultural Education in Early Childhood: Issues and Challenges'. *Journal of International Cooperation in Education*. Vol. 12, No. 1. pp.159–175.
- AGGARWAL, J.C., AND GUPTA S. 2019. *Early Childhood Care and Education*. Shipra Publications.
- AGRAWAL, DEEPTI, BENAZIR PATIL, DIPTI KAPOOR, AND PUSHPA CHAUDHARY. 2021. 'Intersectoral Action for Early Childhood Development in India: Opportunities, Challenges and the Way Forward'. *Indian Pediatrics*. Vol. 58, pp. 28–31.
- AL-MATALKA, FAISAL IBRAHIM 2014. 'The Influence of Parental Socioeconomic Status on Their Involvement at Home'. *International Journal of Humanities and Social Science*. Vol. 5, No. 4. pp. 146–154.

- BALL, JESSICA 2005. 'Early Childhood Care and Development Programs as Hook and Hub for Inter-sectoral Service Delivery in First Nations Communities'. *International Journal of Indigenous Health*.
- BARNETT, W. STEVEN. 1995. 'Long-Term Effects of Early Childhood Programs on Cognitive and School Outcomes'. *The Future of Children*. Vol.5, No.3. pp. 25–50.
- BEHERA, JAGANNATH AND BIJAY KUMAR MALIK. 2019. 'Need for Strengthening Pre-Primary Education Under RTE Act: Evidence from Madhya Pradesh and Chhattisgarh'. *Madhya Pradesh Journal of Social Sciences*. Vol.93, pp. 93–105.
- BORDHAN, SUJIT. 2014. 'Parental Attitude Towards Schooling of Their Children'. *Journal of All India Association for Educational Research*. Vol. 26, No. 1. pp.1–13.
- CORTÁZAR, ALAJENRA, MARÍA DE LOS ÁNGELES MOLINA, JAVIERA SELMAN, AND ALJENRA MANOSALVA. 2019. 'Early Childhood Education Effects School Outcomes: Academic Achievement, Grade Retention and School Dropout'. *Early Education and Development*, Vol. 31, No. 3922. pp. 1–19.
- DEAN, JOSHUA T., AND SEEMA JAYACHANDRAN. 2019. *Attending Kindergarten Improves Cognitive but not Socioemotional Development in India*. Cambridge: Poverty Action Lab.
- ESHETU, AMOGNE ASFAW. 2018. 'Parental Socio-Economic Status as a Determinant Factor of Academic Performance of Students in Regional Examination: A Case of Dessie Town, Ethiopia'. *International Journal of Academic Research in Education and Review*. Vol. 3, No. 9. pp. 147–256.
- GHOSH, SAIKAT AND HANNAH STEINBERG. 2022. 'Parents' Attitudes and Unequal Opportunities in Early Childhood Development: Evidence from Eastern India'. *Journal of Early Childhood Research*. Vol. 20, No. 3. pp. 413–430.
- INTERNATIONAL LABOUR ORGANISATION AND UNITED NATIONS INTERNATIONAL CHILDREN'S EMERGENCY FUND. 2021. *Child Labour: Global Estimates 2020, Trends and the Road Forward*. Retrieved from <https://data.unicef.org/resources/child-labour-2020-global-estimates-trends-and-the-road-forward/>
- JUMA, AUDREY 2004. 'Improving Practices in Early Childhood Classrooms in Pakistan: Issues and Challenges From the Field'. *Contemporary Issues in Early Childhood*. Vol. 5, No. 3. pp. 402–407.
- KAUL, VINETA AND DEEPA SANKER. 2009. *Early Childhood Care and Education in India*. National University of Educational Planning and Administration.
- MINISTRY OF STATISTICS AND PROGRAMME IMPLEMENTATION. 2020. *Key Indicators of Household Social Consumption on Education in India*. Government of India.
- MAGNUSON, KATHERINE AND JANE WALDFOGE. 2005. 'Early Childhood Care and Education: Effects on Ethnic and Racial Gaps in School Readiness'. *The Future of Children*. Vol. 15, No. 1. pp.169–196.
- MALIK, T. A., AND NASIRA IRSHAD. 2012. 'Parental Depression, Stress, Anxiety and Childhood Behavior Problems Among Single Parent Families'. *Journal of Pakistan Psychiatric Society*. Vol. 9, pp. 1.
- MASCARENHAS, PATRICIA. 2015. 'The great Indian Tuition and Coaching Industry'. DNA. <http://www.dnaindia.com/academy/report-the-great-indian-tuition-and-coaching-industry-197398>

- MINISTRY OF FINANCE. 2019-20 'Social Infrastructure, Employment, and Human Development', Chapter 10'. *Economic Survey*. https://www.indiabudget.gov.in/economicsurvey/doc/vol2chapter/echap10_vol2.pdf.
- MINISTRY OF STATISTICS AND PROGRAMME IMPLEMENTATION. 2023. *Periodic Labour Force Survey*.
- UNITED NATIONS DEVELOPMENT PROGRAMMES. 2022. *Global Multidimensional Poverty Index: Unpacking Deprivation Bundles to Reduce Multidimensional Poverty*. New York.
- MWOMA, T., NYAKWARA, B. N, AND MURUNGI, C. 2018. 'Safety and Security in Reschools: A Challenge in Informal Settlements'. *Issues in Educational Research*. Vol. 28, No. 3.
- NATIONAL CRIME RECORD BUREAU. 2019. Report on Missing Women and Children in India.
- MINISTRY OF HUMAN RESOURCE AND DEVELOPMENT. 2019. *National Education Policy Draft*. Govt of India
- NATIONAL CRIME RECORD BUREAU. 2020. *Crime in India*. Statistics Vol 1.
- NIMHANS. 2019. *Advancing Child Safety in India*. Exclusive Summary.
- SIMON, NTUMI. 2016. 'Challenges Pre-School Teachers Face in the Implementation of the Early Childhood Curriculum in the Cape Coast Metropolis'. *Journal of Education and Practice*. Vol. 7, No. 1. pp. 54–62.
- OSONWA, O.K., A.O. ADEJOBI, M.A IYAM AND R.H OSONWA. 2013. 'Economic Status of Parents' a Determinant on Academic Performance of Senior Secondary Schools' Students in Ibadan, Nigeria'. *Journal of Educational and Social Research*. Vol. 3, No. 1. pp.115–122.
- PATNAIK, JYOTSNA. 1996. 'Early Childhood Education in India: History, Trends, Issues, and Achievements'. *Early Childhood Education Journal*. Vol. 24, No. 1.
- PAUL, RONAK, RASHMI RASHMI, AND SHOBHIT SRIVASTAVA. 2021. 'Does Lack of Parental Involvement Affect School Dropout Among Indian Adolescents? Evidence from a Panel Study'. PLOS ONE. Vol. 16, No. 5. pp.11–16.
- MINISTRY OF EDUCATION. 2021. *PM Poshan Shakti Nirman*. Department of School Education and Literacy. Government of India.
- . 2021 *Unified District Information System for Education Plus*. 2021. Department of School Education and Literacy.
- CHANDRA, REETU, GULATI RENU, AND SHARMA. ADARSH. 2017. 'Quality Early Childhood Care and Education in India: Initiatives, Practice, Challenges and Enablers'. *Asia-Pacific Journal of Research in Early Childhood Education*. Vol. 11, No. 1. pp. 41–67.
- SAMAL, ROJALIN. 2012. *Parents' Attitude Towards Schooling and Education of Children*. Project Report Submitted to Department of Humanities and Social Sciences for the Partial Fulfillment of the Requirement in Master's Degree in Development Studies. National Institute of Technology, Rourkela.
- SEHANOBI, TRIDIPA. 2021. 'Trafficking of Children for Prostitution in India: A Critical Analysis of the Preventive and Rehabilitative Measures Under the Indian Legal System'. *Sharda Law Review*. Vol. 1, No. 1. pp. 1–17.
- UNITED NATION INTERNATIONAL CHILDREN EMERGENCY FUND. 2022. *Child Labour*. Retrieved from <https://data.unicef.org/topic/child-protection/child-labour/#data>.
- WEISS, KEITH E., AND VIVIAN I CORREA. 1996. 'Challenges and Strategies for Early Childhood Special Education Services in Florida's Rural Schools: A Delphi Study'. *Journal of Research in Rural Education*. Vol. 12, No. 1. pp. 33–43.

Significance of Using Indigenous Toys and Games in Early Years: A Child's Way to Learn and Grow

Romila Soni*

Abstract

Play-based pedagogy using toys is the most appropriate and preferred pedagogy at the foundational stage. Much of the research endorsed play as fulfilling an important role in early learning. Researchers agree that language, literacy and early numeracy develop in the first six years of a child's life. High-quality play with developmentally appropriate toys and play materials can really help children fully develop their language, literacy and numeracy skills. All kinds of play experiences build the baby's brain. Toys provide pleasure and huge fun to the world of children of all stages, only the complexity level of toys get increased according to the age, development and abilities of the children/student. Unlike the fancy, expensive and electronic toys sold in stores today, traditional Indian toys and games are just simple, easy to develop even by the teachers and take their inspiration from the environment. Without doubt, traditional building toys are excellent for a child's overall development and specifically their language, literacy and early math development. The effect is even greater when teachers and parents are aware of the opportunities for learning which exist in these toys and educational play materials.

INTRODUCTION

Indian toys have a long history as old as the icons and idols themselves. From the realms of divine inspiration and day-to-day recreation, the craftsmen with their innate skills transformed mundane objects as toys into expressions of art. Toys and dolls are an integral part of Indian

culture and one of the best examples is *Chennapatna* of Karnataka and Andhra Pradesh where handmade toys and dolls in various shapes and sizes are probably the best play materials for children. Today children are unaware of the beauty of the traditional Indian toys that their parents or grandparents played with. All children love to play as

*Associate Professor, Department of Elementary Education, NCERT, New Delhi-110016

playing is natural to them. It is globally acknowledged that the early years of a child's life, i.e., upto 6–8 years are the most critical years of development since the brain develops at a rapid rate and these years are impressionable. Whatever the child learns, for example, whatever they do, listen, play with, will go deeply embedded in the child's life and it becomes extremely difficult to change or repair any damage done in the early years. These young children are active, busy learners who enjoy a wide variety of play activities and love to explore toys and learning materials. All kinds of play experiences build the child's cognitive development.

Toys are the tools for the children that they use to know their immediate world. Toys provide pleasure and huge fun to the world of young children. Toys have a very special place in the lives of young children as it stimulates their thinking and makes them competent at using language to communicate. This newly developed thinking and language skills enable young children to begin solving complex problems, asking questions and using imagination to create and act out stories. Most of the activities done in the early years need toys and learning materials to support young children's play. During the early years, the child begins to coordinate senses and movements and manipulate the objects around her/him in more skilled and complex ways. Children need to be active and we cannot expect them to sit still and silently in one place for a long time.

Children need plenty of experiences for fun play and learning such as swinging, rocking, running about and expressing joy with their bodies.

A child also needs plenty of age and developmentally appropriate material and games which provide them enjoyment. It also helps in habit formation; for instance, children learn to listen, to watch, to follow instructions, ask and answer questions, to wait for their turn, to cooperate and many other social skills. Can we provide such skills in today's scenario where children are just sitting in front of the television, computers or while playing computer games on the mobile phone or other handsets? It is necessary to integrate technology in the early years' curriculum but we cannot snatch the joy of playing with toys from childhood. Simple everyday materials can also be used for playthings as these simple play equipment and toys support children's holistic development. It also helps the adults to get an idea of what and how children are learning as they explore the toys and other play materials. Traditional Indian toys and games have a special place in the child-rearing practices and the early years learning.

Some of the babies' first discoveries about their immediate world will come to them through toys. The exploration helps them understand how to use objects, for example playing with balls and blocks, the child realises that round objects roll, but those with edges do not.

Educational toys and games are among the most significant tools to create the right kind of early learning environment for a child and thereby improve the learning ability.

How Playing with Toys Affects their Holistic Development?

If you observe children's play and pause to reflect on the structure they have created, shapes they have made, patterns they have created, and how they function their playthings, you would be surprised to see how much these young children can learn from the toy world. Every child has a right to play with toys as we cannot deprive them of this right of their childhood. It's not that those children who are deprived of toys do not play, they just find something around their immediate environment, for example, they create a doll's house using a piece of cloth or their mother's saree, they wrap up an old piece of fabric or a rag around an old spoon or stick and call it a beautiful doll.

Children love playing with dolls, drums, push and pull toys, threading beads, interlocking blocks, stuffed animals, puzzles, matching games, shape sorters, and so many others. As the child grows, they will start to use these toys differently, for example, the blocks they once carried around may now be used to build a bridge or a house or they might use the block as a car moving along the road. This pretend play extends children's imagination and develops their thinking skills. Children love

to play with pots, pans, and wooden spoons as drums and sticks and use them as musical instruments.

Research shows that children with good play skills tend to do well in later schooling and develop into well-adjusted people. Playing with toys helps develop thinking skills such as recalling experiences, ordering things, figuring out how to replay them, and solving problems that come up. Play develops social skills as children work together, play with toys, share the toys, and share ideas. Children play longer when suitable toys and objects are provided to them and gain benefits in all developmental areas that play has to offer. Toys are just wonderful teaching-learning aids to help and support children's literacy and numeracy development. Specially chosen toys and materials to enhance literacy and numeracy in early years would be an added asset to the classroom learning basket which ultimately aims to make our children attracted and motivated towards reading and using thinking skills.

Toys and Play Materials for Different Domains or Developmental Areas

Toys and Play Equipment for Physical and Motor Development

Learning basic motor skills such as climbing, walking, running, crawling, jumping, reaching is much easier and joyful during these early years, especially when provided with the age and developmentally appropriate toys and equipment. Adults need to provide

and encourage such activities that help children learn and use new motor skills to build their large muscles as well as their small muscles. Swings, slides, sea-saw are needed for gross motor skills and blocks, puzzles, crayons, stringing beads, picking up objects with tongves, building pieces that snap together, buttoning, lacing, nesting and stacking toys, rattles, etc. are required for small or fine muscle skills. Toys for active play will strengthen the body and toys related to colour, shapes, sound, texture, and pattern will develop their perception.

Toys for Enhancing Thinking Skills

A variety of stimulating toys plays a crucial role in early intellectual growth. The toys that help children's mental capabilities, for example, stringing the beads, fixing a puzzle, using a shape sorter or color sorting boxes. Children learn about ordering, sequence, measurement, like height and depth when they are engaged in block building using interlocking and construction blocks. The blocks are very versatile and keep young children engaged and happily entertained.

Toys for Promoting Language and Early Literacy Skills

The toys fascinate children and encourage them to talk, very commonly you will see that children want to tell you what they have made, and love hearing what you have to say in return. Toy telephones and talking books are

tech-aided toys that simply boost their language and communication skills.

Toys for Extending Creativity and Imagination Skills

The art learning materials also provide rich sensory experiences as the children manipulate objects, squeezes them, pokes the play dough, and moves their fingers through the clay (potter's clay is especially very good) or the finger paint — all such experiences strengthen the connections being made in the brain. Toys such as puppets and dress-up clothing will stretch the imagination while the very trendy electronic and tech-aided toys will stimulate the child's growing memory.

Toys for Building Social-Emotional Skills

Toys provide emotional security. Multipurpose toys invite group play and help children learn about sharing and cooperation. The child explores their inner world through play with toys. They may use a plaything to express their feelings, perhaps many times release their pent-up emotions while playing with the doll or dramatic play such as *ghar-ghar*, or they may use certain toys to act out adult roles, broadening her sense of self.

Finally, toys teach the values of our Indian culture. Dolls represent the different cultures of Indian society, blocks represent the school buildings, the house buildings, bridges, railways, and reflect our modern sense of mobility and confidence that

we can build a world. The child also learns organisation through the world of toys. The selection of toys and the learning materials is very important because the choice of toys will communicate the values and develop interpersonal skills.

Selection of Innovative, Indigenous, Age and Developmentally appropriate Toys

Are the beautiful traditional toys available in the market? The wooden stacking dolls, mobile wooden toys, kitchen utensils with their bright colours and non-toxic material are missing from the market and in turn from the lives of children. A traditional Indian toy is usually wooden, non-electronic and does not use much technology. Today, when we buy these plastic toys, it is because they are cheap in comparison to wooden toys. But these beautiful indigenous wooden toys are actually very important for early years learning, especially the puzzle inset board, wooden blocks, stacking shapes, shape sorters, paper mache stacking dolls, and so on. Children learn about local animals, utensils, colours and shapes through these toys. In India also like in other countries nowadays everywhere, be it a local market, mall or at home, you are more likely to see very young children hooked to their parents' mobiles, rather than holding on to a favourite doll or a toy. Adults must understand that technology does not mean playing games on the mobile phone. It's high time to think about such innovative

ideas and manufacture for a new generation where we can induce technology in these indigenous toys and games.

What to do with the new generation of imported electronic and digital toys flooding in the market? Nowadays, the toymakers and the manufacturers offer such a wealth of playthings the parents often feel overwhelmed, but the selection of the right toy is very important. We adults generally go crazy seeing the imported toys in the market and without knowing the use and benefits we purchase it. Children do get attracted to these because of their lights, colours and movements, but soon get bored and go back to manipulatives. Such battery-operated toys also make children couch potatoes therefore the toys need to be age and developmentally appropriate, fun for the child and at the same time challenging to them. The new generation toys or tech aids are enormously responsive and stimulating to children but care must be taken that it should not make children sit at one place for a longer duration rather it should be engaging, multi-use, and multi-purpose, and according to the child's abilities. It should be such that children can manipulate themselves, can be used in classroom learning, easy to handle, enhance social skills. Care must be taken that such tech aided toys must provide for group play rather than making them play and use in isolation. They should be well-made, sturdy and safe for the children.

These modern toys many times are harmful and hazardous for children since low grade plastics and other harmful metals are used in it. As we cannot deny the use of technology in the toys, at the same time, we must remember that young children need concrete manipulatives and toys that they can actually poke, mold, create construct with.

We need toys that would enhance and provide for STEM/STEAM (Science, Technology, Engineering, Arts and Maths) in the early years. The toys for STEM/STEAM—Science, Technology, Engineering and Mathematics help children develop skills in these core areas. As most of the parents are actually worried about their children using too much mobile for playing games, STEM and tech-aided toys seem like the perfect balance to keep children engaged with their toys, while at the same time making digital knowledge available to them. The tech aided speaking toys to facilitate children’s speech and vocabulary also help children with special needs. Here it must be noted that technology should not be for show and demonstration like many battery-operated toys, it should add value, purpose and meaning along with fun. Tech aided toys support children with severe other physical impairments for example: ride-on-tricycle, talking telephone, etc.

There is a need to make provision of such toys that stimulate children physically intellectually, and socially.

There have to be such toys that encourage children to play with others, such as building blocks, alphabet blocks, number blocks, doll houses and innovative board games. There have to be toys for all children that cut across gender stereotypes. The selection of toys for young children should be in tune with their skills and temperament. The tech aided toys should be developed in a manner that these would help in learning a skill or skills, make learning joyful and engage the children rather than sitting in isolation or merely watching a battery-operated toy moving.

Time to Question Ourselves

Can we think of producing cuddly cloth dolls with Mahbubani? Can we create the old wooden chess board for older children and make it a part of school indoor play? How many families still have a carrom board in their homes? Is not such games and toys bring bonding and warmth and at the same time teach us the rules and values. The famous wooden spinning Top is still loved by children in rural India, how many urban children know about it? Do we see our girls skipping ropes?

To conclude, our little children have all the right to play with toys and these must be safe, stimulating, eco-friendly, and sustainable toys as toys are the best way to keep our children engaged without the use of the screens. A good toy helps in the holistic development of a child. Play with toys is also of greatest importance in children’s health,

and well-being and help them in becoming responsible citizens. We should support every opportunity for children to play with toys and recognise the value of play. Not only do we provide toys and games to play rather involve them in developing the age-appropriate toys as prosumers and not only become consumers. Entrepreneurship among children needs to be infused at an early age and skill training should be planned at all

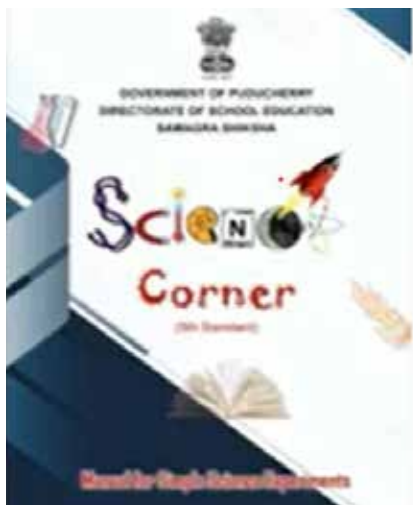
levels of education. There needs to be a school and industry partnership and need to manufacture toys developed by students for young children in factory mode and help nurture the creative talents of students in India and promote the philosophy of self-reliant India, (Aatmanirbhar Bharat). Let us join together and promote toy-play pedagogy in schools.

REFERENCES

- AKIN, SUNAY. 2016. *The Toys We Broke*. Istanbul: İş Bankası Publications.
- BRUCE, TINA. 1987. *Early Childhood Education*. Hodder and Stoughton.
- GUPTA, M. SEN. 2012. 'Plays and their Importance in Early Childhood Education' *Early Childhood Education*. (Ed: Ibrahim H. Diken). Ankara: Pegem Academy Publications.
- KNOPF HERMAN T. AND KERRIE L. WELSH. 2010. *Preschool Materials Guide*. South Carolina. Department of Social Services. ABC Child Care Program. University of South Carolina.
- MACINTYRE, CHRISTINE. 2016. *Enhancing Learning Through Play—A Developmental Perspective For Early Years Settings*. Routledge: Taylor and Francis Group. London.
- MAURIRAS-BOUSQUET, MARTINE, JAYANANDA RATNAIKE, NICO VAN OUDENHOVEN, JEAN PIERRE ROSSIE, ANANDA W.P. GURUGÉ, AND ANDRÉ MICHELET. 1988. *Games and Toys in Early Childhood Education*. UNESCO-UNICEF Cooperative Programme.
- MOYLES, JANET R. 1989. *Just Playing: The Role and Status of Play in Early Childhood Education*. Open University Press, United Kingdom.
- SONI, ROMILA. 2020. *Play and Learn Preschool Education Kit*. National Council of Educational Research and Training. New Delhi.
- WHITEBREAD, DAVID. (ED.) 1997. *Teaching and Learning in the Early Years*. RoutledgeFalmer: Taylor and Francis Group, London New York.

Science Corner in Primary Classrooms

George Fernandez*



The Science Corner Manual is an initiative which is prepared and distributed by the UT of Puducherry to improve the attainment of learning outcomes in the subject of environmental studies for primary-level students and to develop attitudes towards the subject. This manual includes the guidelines for the

installation of a Science Corner in the classroom, a list of experiments that can be conducted in the classroom (under adult supervision), a list of local shops where teachers or the school authority could buy the material needed to conduct the experiments, teacher's role while conducting the experiments, safety measures to be taken while conducting the experiment, etc.

There are 48 simple science experiments, which explain concepts like evaporation, air pressure, surface tension, condensation and many more.

For example, one of the experiments is on the principle of attraction between the same molecules and the surface tension of water. Material required for the experiment is a glass tumbler with water, any food colour, a plate and six plastic coins. Instructions are as follows:

*Professor, Department of Elementary Education, NIE, NCERT, New Delhi

1. Take a glass tumbler and fill it with water. You can add any food colour (optional).
2. Cover the mouth of the tumbler with a plate.
3. Invert the setup and place it on the table.
4. Carefully, insert one coin between the mouth of the tumbler and the plate. Slowly, insert two more coins at an equal distance.
5. Now we can notice a space between the water and the plate, but the water is not flowing out through this space.

REASON

The molecules of the water are tightly bonded. This force is known as 'cohesive force', that is, the attraction between the same molecules. This force helps the water molecules to attract each other and the outside air tries to enter and block the space between water and plate.

NCERT, New Delhi, conducted a National Achievement Survey across the country (2017) to assess to what extent the learning outcomes have been achieved in the subject of language, mathematics, and science for the students belonging to III, V and VIII standard. As per the state and district level report card of Puducherry, it was noticed that students' performance in the subject of science was less than the national average.

In order to improve the state of affairs, a series of workshops at the

state, district, and school levels were conducted by the State Project Office, Samgra Shiksha. Through these workshops, the teachers of science suggested that in order to improve the learning outcome in the subject of science some intervention is needed at the primary level. A suggestion of establishing Science Corners in schools and developing a manual for the same was proposed to the MHRD by the committee. This committee included a group of science teachers who have participated in the national, state and district-level science exhibitions and some of them have been a part of the National Children's Science Congress and Indian Science Congress. This committee had suggested guidelines for establishing a Science Corner in the government schools of Puducherry.

Features of Science Corner

As per the guidelines, the Science Corner would be a corner (place) in the classroom that would be easily accessible to children as well as the teachers. That place should have adequate space in order to conduct small experiments in the classroom. The equipment/articles for simple experiments may be kept on the table/shelves/racks with easy access. The Science Corner may have proper lighting and ventilation. It should have a good collection of articles to serve the need and interests of children. Teachers shall equip the corners with simple equipment/articles/experiments/materials/posters/local

available resources for children to do the activities with the help of teachers. Posters related to environmental Science may be displayed in the corner. Notice board (whiteboard/flannel board/bulletin board) may be installed in the Science Corner for showcasing the news articles and scientific facts. Manuals of the simple experiments may be kept in the Science Corner.

GUIDELINES TO SET UP SCIENCE CORNER

For establishing the Science Corner, a committee had been constituted under the chairmanship of the director of Samgra Shiksha for framing the guidelines. These guidelines were framed based on some key points; how to make a Science Corner, where to set it up and what safety measures to be taken while conducting the experiments.

- A committee has to be constituted in the school, for the purchase of articles for the setting up of Science Corner. The committee members shall comprise head of institution, two teachers (preferable science background) and one SMC member.
- Teachers shall equip the corners with simple equipment/articles/experiments/materials/posters/local available resources for children to do the activities with the help of teachers.
- The teachers shall monitor the children while doing the activities with the help of the observation notebook

(proforma annexed). The head of institution shall monitor the observation notebook on a weekly basis.

- Safety of children should be the top priority while setting up a Science Corner.

The following factors shall be followed for the safety and security of the children

- Experiments with chemicals shall be done under the supervision of the teacher concerned.
- Electrical circuit connection from the switchboard must be avoided. Dry cells/batteries may be used for electrical experiments.
- Sharp objects or cutting tools or small objects shall be handled carefully under the supervision of teachers.
- Simple fire experiments (lamp/matchbox/candle) may be done under the supervision of teachers. While doing fire experiments, a bucket of sand and water shall be kept near the Science Corner.
- All hazardous and harmful materials shall be kept in a locked box when not in use.
- In general, all safety precautions may be taken.
- The Head of the institution/teachers shall ensure the safety of the children.

- Give opportunities to children to perform the activities on their own or in groups and appreciate the experiments developed by them.
- Encourage children to identify various elements of 3D/2D objects.
- Showcase children's exhibits at community events.
- In addition, the schools may organise Science Fairs or Exhibitions to foster scientific temper among the children.
- The Head of the institution or teacher shall contact core committee members of the Science Corner for guidance and support.
- The core committee shall assess the activities of Science Corner and the best Science Corners will be awarded.

air pressure, surface tension, condensation and many more. It includes URL links to short videos which would help the teachers as well as the students to understand how to conduct simple science experiments and supplementary videos showing Tangure temple for shadow formation, Hampi temple for the pinhole camera in order to develop scientific temperament among students. The manual also includes various examples stating the idea of the existence of various scientific phenomena in our daily life. In this way, the manual helps in developing curiosity and observation skills among students.

The manual also has links and QR code giving direct access to a YouTube channel started by the education department of Puducherry. These videos are uploaded to facilitate teachers as well as the students, enabling them to conduct the experiments with ease (in the case of students, they are advised to conduct experiments under adult supervision).

SCIENCE CORNER MANUAL

The committee had prepared nearly 48 simple science experiments, which explain the concepts like evaporation,

BOOK REVIEW

Baby and Dubdub

Varada M. Nikalje*

Author: Khyrunnisa A.

Illustrator: Aaryama Somayaji

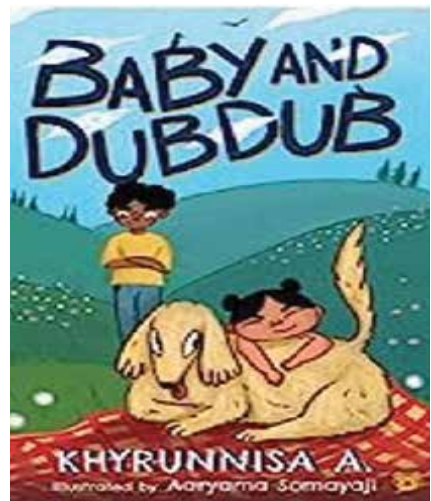
Age: 7–10 years

Publishers: Speaking Tiger Books,
New Delhi

Year of publication: 2022

Price: ₹ 250/-

This story is a warm and funny narrative about friendship and love. The title, 'Baby and Dubdub' represents the two important characters in Rohan's life. All that Rohan had ever wanted was a dog. Any dog would do, as he told his parents. His parents bought a dog encyclopedia for him, so that he could choose. They also told him that very soon he would have a baby brother or sister. Rohan, however, is more focused on getting a dog. To his delight, he does. An adorable golden retriever with a happy bark and a swishy tail, becomes part of the household. Rohan hugs the dog and



hears his heart go 'dub...dub'. So, he promptly names the dog 'Dubdub'. Rohan and Dubdub became the best of friends.

Then one day, Baby Sheila comes into their lives. She is a cheerful and noisy baby and everyone loves her. But one event changes everything. When Rohan's mother returns home

*Professor, Department of Elementary Education, NIE, NCERT, New Delhi

from the hospital, and is getting down carefully from the car, holding the baby, Dubdub comes rushing to greet her. However, instead of greeting him with a smile and a pat on the back, as she normally did, she shrank back holding Baby close to her. Dubdub retreated, feeling hurt (p.39).

From then on, there was a marked change in Dubdub's behaviour. He sulked, his ears hung limp, and would not remain in the room where Baby played. If Baby called to him, or threw a toy in his direction, he would growl. At this point the story is narrated from the dog's point of view, yet continuing in the third person, which makes it very interesting. 'Dubdub growled once more, annoyed. Protecting the baby from him! He did not like Baby, but did not Rohan understand that he would not bite her? Rohan should know that he would not bite ANYBODY, not even a small four-legged bundle of irritation (p.72).

And so, the story continues, making the reader wonder at the end of each event whether Baby and Dubdub will ever become friends. The story concludes with a totally unexpected twist with one getting into danger, and the other initiating a rescue.

The author brings in a lot of humour in the story, but without resorting to satire or ridicule. The description of the maid's horrified face when she encounters the pet, would leave young readers in fits of laughter Shanta had no idea there was a dog in the house when she

came for work on Monday morning. She had just opened the gate when Dubdub, hearing the sound, rushed to welcome the newcomer. Shanta gave a piercing shriek and bolted, who would have expected Shanta to be such a champion runner? The family was treated to the funny sight of Shanta running in fast and furious circles like a jelly on a merry-go-round, somehow managing to stay ahead of Dubdub, shrieking non-stop like a train-whistle (pp.37-38).

Through references to the dog encyclopedia, and to the various dogs that his friends have, a lot of information about dogs is provided to the reader. There are short descriptions of different breeds—Alsatian, German Shepherd, Dalmatian, Poodle, etc.

Readers are also told about Roger, who had a pug dog with a cute snub nose and a wrinkly face. Diya had a cocker spaniel, which was very gentle. Deepak's dog was a friendly Pomeranian. Young readers would perhaps be motivated to look up the huge variety of dogs in the world.

Aaryama Somayaji, the illustrator, is known for her simple lines and black-and-white images. The intricate details add depth to the illustrations, bringing the concept to the fore. This is especially true of the images of the two children, almond-eyed and with curly hair. The monochromatic pictures make certain details stand out starkly. The surrounding objects also provide an added dimension of cultural context. The picture of the various kinds of dogs is particularly

appealing. She has said that illustrating for children is her way of giving back the joy she had as a child.

Khyrunnisa A., is an award-winning writer of children's fiction. In 2007, Khyrunissa won the prestigious Unisun Children's Fiction Award. She also has five Children's Book Trust prizes to her credit.

The story and the characters are quite ordinary, yet the author manages to portray all of them with a mix of realism and humour. It is obvious that she has a real understanding of kids and pets. Through her warm and entertaining narration, the author demonstrates that in any family, love and affection will ultimately win the day. The language used is simple and conversational. For instance, "Mithun, his friend, had a dachshund, though did not know how to spell it. You cannot blame him for, even good spellers found it difficult to get 'dachshund' right. Mithun sometimes

even got his own name wrong. That's why he named his dog 'Dog'. A simple three-letter word. You can not go wrong with that".

The storyline moves at an easy-going leisurely pace from school to home, from neighbours to friends, from hospital to playground and so on. The various milestones that Baby achieves are celebrated; her first gurgle of laughter, her first attempts at crawling. Best of all, there is no 'preaching'; yet the story imparts values of acceptance, friendship and love.

Young learners may relate to the character in this respect, and reveal their feelings about a sibling or cousin: jealousy, competitiveness, love and affection, etc. For adult readers, reading the book is a trip back to one's childhood! Additionally, parents and teachers may use the book to initiate positive conversations with young learners about sibling cooperation.

The Moment I Will Never Forget

Ojaswini Rai*

I remember an incident of my childhood; when, whenever exams were around the corner, my grandfather had kept a rule and it mandatorily had to be followed at home. The rule was that, if I wanted to go and play with my friends, I had to go through the home examination first. The home examination was the set of questions my grandfather had set up for me as a practice paper before the actual examination; and if only I answered all the questions or most of them, then I was allowed to play with my friends. I was completely against this pedagogical method set up by him back then.

As an 11-year-old girl, I was furious thinking I was not allowed to play with my friends even on a holiday. Sadly, accepting that and taking up the home examination was the only way I would be allowed to play. I took it seriously, not because I wanted to

do better in my exams but to have the privilege to go out and play, and also the reason being that my bad performance in the home examination would allow my grandfather to set up another test paper, and I began studying seriously.

On the day of the actual examination, when I saw the test questions, I immediately thought of my grandfather going through the hassle of making the test questions for me due to which the questions I see now seemed familiar. I tried my best in all the examinations. Later, I realised he was doing it for my own good, and since then I have not had any complaints in my heart. I did not realise the importance of these examinations while growing up, but this incident was an eye-opener for me.

After I got evaluated and given test scores for the examination from the

* JPF, Department of Elementary Education, NIE, NCERT, New Delhi

school, I knew sooner or later I would have to inform my grandfather about it. As we were given each subject's test scores on different days, hence, some days I became nervous because of the average scores and some days I would be on cloud nine by scoring full marks. When I showed him my marks, he smiled at me and said, "It's the efforts you make that matter the most. Don't worry about the result. You keep working hard and giving your best." All my nervousness went away after hearing his words.

I understood he was, after all, not a strict man but someone who deeply loved and cared for me.

The next day he said, "Come with me for a walk." I joined him for an evening walk. Suddenly he took me to a pastry shop. He bought one pastry for me and told me that he is rewarding me for the hard work I put in during my examinations. I was elated to eat the pastry; and to this date, it is my favourite pastry which brings joy and beautiful memories of my childhood with my grandfather.

NOTES

NOTES

NOTES

TO THE CONTRIBUTORS

The Primary Teacher invites teachers, teacher educators and research scholars to write articles, field notes and reports that impact Primary stage of education. The focus areas may be issues and concerns that you feel should be shared with other stakeholders.

- Each article should be about 1500 to 3000 words.
- Each article should have a short abstract in about 150 words.
- Use simple and non-technical language and a communicative tone.
- The photographs and illustrations should be sent in JPEG format, having a resolution of at least 300 dpi.
- The articles must be sent in soft and hard copy to:

Academic Editor
The Primary Teacher
G. B. Pant Block, NCERT
Sri Aurobindo Marg, New Delhi – 110016
e-mail: primaryteacher.ncert@gmail.com

Regular Features

From the States

Various initiatives are taken up in school education by States and Union Territories of the country. This section showcase the best practices in teaching, highlights supplementary reading material and discusses new approaches to training and orientation developed by States/UT that may be replicated or scaled by stakeholders in other regions.

Book Review

This section reviews fiction and nonfiction, books and documents relevant for school teachers. It provides a concise and critical perspective of a variety of works with details on language and style, along with a short summary, that would facilities schools in replenishing their libraries.

My Page

This section contains letters and feedback, where one can put forward responses, suggestions and expectations in the form of articles, papers and columns. It also addresses issues, concerns, doubts, incidences, experiences related to teaching- learning processes, classroom practices, syllabus, textbooks, evaluation patterns and research related to the primary stage of education.

Regd. No. 28935/76

NCERT Educational Journals and Magazine

Title	Single Copy	Annual Subscription
School Science A Quarterly Journal for Secondary Schools	₹ 55.00	₹ 220.00
Indian Educational Review A Half-yearly Research Journal	₹ 50.00	₹ 100.00
Journal of Indian Education A Quarterly Journal of Education	₹ 45.00	₹ 180.00
भारतीय आधुनिक शिक्षा (त्रैमासिक) (<i>Bharatiya Adhunik Shiksha</i>) A Quarterly Journal in Hindi	₹ 50.00	₹ 200.00
The Primary Teacher A Quarterly Journal for Primary Teachers	₹ 65.00	₹ 260.00
प्राथमिक शिक्षक (त्रैमासिक) (<i>Prathmik Shikshak</i>) A Quarterly Journal in Hindi for Primary Teachers	₹ 65.00	₹ 260.00
Firkee Bachchon Ki Bilingual Biannual Children's Magazine	₹ 35.00	₹ 70.00

Subscriptions are invited from educationists, institutions, research scholars, teachers and students for the journals published by the NCERT.

For further enquiries, please write to:

Chief Business Manager, Publication Division
National Council of Educational Research and Training
Sri Aurobindo Marg, New Delhi 110016

E-mail: gg_cbm@rediffmail.com, Phone: 011-26562708, Fax: 011-26851070

विद्यया ऽ मृतमश्नुते



एन सी ई आर टी
NCERT

राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद्
NATIONAL COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING