Exploring the Effectiveness of Drama-based Learning (DBL) in Elementary Education: Students' Perceptions and Subject Preferences

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Abstract

The National Education Policy (NEP) 2020 emphasises the importance of 21st-century skills and interactive teaching methods. This study investigated elementary-level students' perception of drama-based teaching and explored any potential differences between male and female students. A descriptive survey method was employed, in which 50 students were taught using drama. The findings suggest that drama-based learning (DBL) is both effective and engaging, especially for language-based subjects, as it promotes exploration, discovery, and problem-solving skills. There was no significant difference in perception between boys and girls, although language subjects were preferred over Mathematics, Science/EVS, and Social Science. This study highlights the potential of DBL as an effective tool for holistic development in elementary education.

Keywords: *Drama-based learning, 21st-century skills, Learners' perception, Elementary education, Holistic development*

Introduction

Teaching, although a complex process, can be effectively implemented when teachers select appropriate pedagogical methods to convey academic subjects or theoretical concepts (Ubong, 2012; Smith et al., 2020). In addition to possessing knowledge of content, curriculum, standards, and assessment processes, teachers must also engage with their learners to understand them well and make informed instructional decisions (Lee et al., 2015; Wang et al., 2017). Pedagogy serves as the bridge that connects these various elements together, allowing skilful teachers to create meaningful learning experiences. While teachers employ different pedagogical approaches and teaching strategies, not all of them yield equally positive learning outcomes (Smith et al., 2020).

The National Education Policy 2020 recognises the importance of not only cognitive development but also character building and equipping students with essential 21st-century skills (NEP 2020, para 4.4, p. 12). It promotes an interactive, joyful, creative, collaborative, and exploratory approach to teaching and learning, emphasising experiential learning (Brouillette et al., 2019). Therefore, teachers are encouraged to adopt pedagogical methods that are experiential, holistic, integrated, inquiry-driven, discovery-oriented, learner-centred, discussion-based, flexible, and enjoyable (Lee et al., 2015).

In recent years, interest in alternative teaching methods that actively engage students and foster a deeper understanding of academic subjects has grown (Jones & Smith, 2010; Lee et al., 2015). One such method is the incorporation of drama in the classroom, which integrates theatrical elements such as role-play, improvisation, and performance into the teaching and learning process.

The utilisation of drama in education has been found to yield numerous advantages, such as heightened student engagement and motivation, improved communication and interpersonal skills, and enhanced critical thinking and problem-solving abilities. Moreover, DBL has demonstrated effectiveness in teaching subjects that are commonly perceived as dry or challenging (Andrikopoulou & Koutrouba, 2019; Lee et al., 2015).

Review of Related Literature

The study of related literature looks at earlier research that examined the use of drama as a teaching method in various educational contexts.

In a study conducted by Jones and Smith (2010), the researchers investigated learners' perceptions of using drama as a learning method. The study revealed that learners reported increased motivation and engagement when drama was incorporated into the learning process. Furthermore, drama was found to be particularly effective in enhancing learners' oral communication skills. Ubong (2012) proposed the use of drama as an educational approach within the classroom and as a presentation approach in extracurricular activities to teach primary school learners about environmental issues. The author suggested that drama can provide lasting lessons in environmental education.

Masoum et al. (2013) conducted a study on the role of drama in mathematics learning. The findings indicated that teaching mathematics through drama produced better outcomes than traditional teaching methods. Moreover, using drama in mathematics instruction was found to facilitate conceptual understanding and enhance learners' perception of the subject.

In a study by Wang et al. (2017) that focused on learners' attitudes towards drama-based pedagogies (DPGs) in science education, positive attitudes were observed among the participants. The study also found that the use of drama in science learning increased students' interest in the subject.

A meta-analysis by Lee et al. (2015) examined the impact of DPGs on academic outcomes. The analysis revealed that incorporating DPGs resulted in improved academic performance across various subjects, including language arts, science, and social studies.

Andrikopoulou & Koutrouba (2019) explored Greek teachers' perspectives and attitudes towards incorporating drama-based activities in primary-education classrooms, specifically in the context of environmental education. The findings indicated that drama-based environmental education had a significant impact on learners. Teachers noted that drama enhanced learners' understanding, fostered resourcefulness, developed empathy, improved social skills, and cultivated a sense of shared responsibility and commitment among learners.

Brouillette et al. (2019) conducted a review on the effectiveness of DPGs in promoting social-emotional learning. The review concluded that DPGs were successful in fostering skills such as empathy, communication and collaboration among learners.

In a qualitative study by Smith et al. (2020), the researchers explored the experiences of learners who participated in DBL activities. The study revealed that learners reported increased confidence and creativity as a result of their involvement in DBL. Furthermore, learners expressed that these activities made the learning process more enjoyable and engaging.

Ezenwosu et al. (2022) published a paper highlighting the use of drama in teaching mathematics at the basic and senior secondary levels in Nigeria to enhance literacy. The authors recommended the incorporation of drama in mathematics instruction as it facilitates the application of mathematical concepts in real-life situations, promoting a deeper understanding of the subject.

The Study

Recognising the potential benefits of drama-based learning, we decided to investigate learners' perceptions of using drama as a

method for learning various school subjects. The study aimed to delve into learners' perceptions of DBL, specifically within the context of enhancing 21st-century skills. Furthermore, the study sought to analyse whether there are significant differences in perception between boys and girls, as well as examining potential variations in subject preferences when utilising drama as a medium of instruction. By gaining a deeper understanding of learners' perspectives on drama-based learning, educators and policymakers can make well-informed decisions regarding the integration of this innovative teaching approach, thereby ensuring that students receive a comprehensive and effective education that nurtures their holistic development (Lee et al., 2015; Andrikopoulou & Koutrouba, 2019).

The primary objectives of our work were to investigate the perception of elementary level learners regarding DBT and to determine whether there are differences in perception between male and female students as well as variations in subject preference. By exploring the nature of learners' perceptions, insights could be obtained into the effectiveness and potential of DBT in elementary education. Additionally, by analysing any gender-based disparities and subject preferences, the study sought to provide a comprehensive understanding of the impact and applicability of DBT methods in promoting inclusive and engaging learning experiences. The objectives of the study were as follows:

- To explore the nature of perception of learners on drama-based teaching in elementary level education.
- To ascertain the difference in perception between male and female students and subject preference.

Methodology

The research design employed for this study was a descriptive survey method. The target population consisted of elementary-level learners, and a convenient sampling method was used to select a school for the study. The Klorofeel School, located in the remote area of Ganjam District, Odisha, stands out for its unique approach to curriculum delivery. Unlike other schools, the school extensively incorporates Drama-Based Learning (DBL) as a routinely used method of teaching and learning. The school follows the curriculum guidelines outlined by the National Council of Educational Research and Training (NCERT), including the use of NCERT textbooks and focussing on the attainment of learning outcomes for the Elementary Stage.

The teachers at Klorofeel School predominantly utilise DBL as their preferred method of instruction, although its popularity varies across different subjects. DBL is particularly favoured and widely employed in specific subjects within the curriculum. This innovative approach distinguishes Klorofeel School from others in the region, highlighting their commitment to engaging and effective teaching methods. This distinctive characteristic was the primary reason for selecting this school as the research site.

Dramas were organised on the chapters based on certain learning outcomes selected from the past academic records of the students in different subjects during academic year 2022–23. Under the guidance of a team comprising a pedagogical expert (mentors), a subject expert (teacher), and a drama instructor, dramas were organised to teach various school subjects. First, specific learning objectives were determined. Then, a subject and topic that aligned with the curriculum and learning outcomes were selected, followed by the development of a concise and engaging script that incorporated the subject matter and was divided into acts or scenes as necessary. Roles were assigned to students, ensuring that everyone had a significant part to play, and rehearsals were conducted to help them understand their characters and roles.

A performance was organised, during which students presented the dramatisation, and a post-performance reflection session was facilitated to encourage insights and

connections with the subject matter. Finally, follow-up activities such as projects, quizzes, and/or discussions were planned to reinforce learning and allow students to apply their knowledge.

This approach, utilising the dramatisation method, created an interactive and memorable learning experience that actively engaged students whilst promoting a deeper understanding of the subject matter.

During the DBL sessions, students assume two types of roles. The majority of students actively engage in the enactment of various characters within the dramas, while the remaining students act as the audience, observing the unfolding drama. Depending on the subject and course content, students have the opportunity to participate in or witness the dramatic activities as they progress through the lesson.

Purposive sampling was then employed to select 50 students (28 boys and 22 girls) from grades three to eight, who had been taught their school subjects using drama as participants.

To collect data, a self-made questionnaire consisting of 20 items on a 5-point Likert scale was administered. Assuming that each statement is equally weighted, the internal

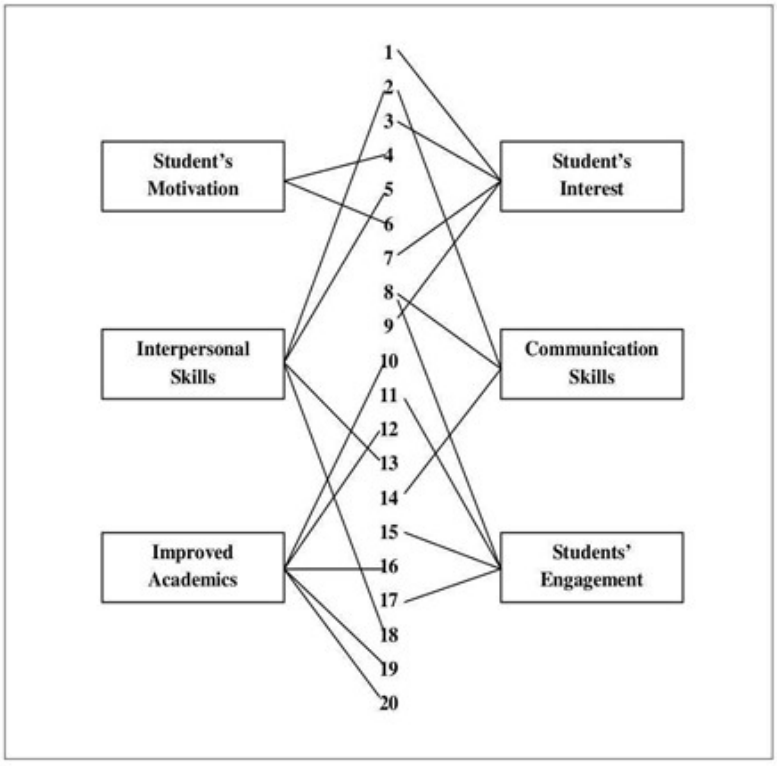

Figure 1: Distribution of items across aspects of students' perception about DBL

consistency of the survey was assessed using Cronbach's Alpha, which yielded a value of 0.89. This indicates a high level of internal consistency among the survey items, indicating that they are reliably measuring the same construct, namely the perception of drama-based learning.

The items were based on the following broad aspects of the perceptions of students:

- Students' interest
- Students' motivation
- Students' engagement
- Interpersonal skills
- Communication skills
- Improved academics

Figure 1 presents the distribution of the items into various aspects of perception of students. The tool consisted of 20 statements out of which 12 were positive (Items 1, 3, 5, 8, 10, 11, 13, 14, 15, 17, 19, and 20) and 8 were negative statements (Items 2, 4, 6, 7, 9, 12, 16, and 18).

Scoring of positive and negative items was done as given below in Table 1.

Table 1: Scoring of Items

Option Choice	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Positive Statement Score	5	4	3	2	1
Negative Statement Score	1	2	3	4	5

Analysis and Discussion'

The collected data were analysed using appropriate statistical measures, including the t-test, Friedman chi-square, and Nemenyi post-hoc test. These statistical techniques were used to analyse and interpret the results of the study, allowing for a comprehensive understanding of the learners' perceptions of drama-based learning and any significant differences observed.

The analysis aimed to provide a comprehensive understanding of learners' perceptions of drama-based teaching in elementary level education, while also examining potential differences in perception between male and female students and variations in subject preference.

Table 2: Learning of Subjects through Drama-based Learning

Subject (N=50)	N	Percentage
Odia	38	76.00
English	23	46.00
Hindi	19	38.00
Social Science	12	24.00
Science & EVS	11	22.00
Mathematics	3	6.00

Table 2 displays the number of students (N) and the corresponding percentages (%) of students who have participated in studying different subjects using drama-based learning. From the table, it is evident that the highest number and percentage of students engaged in drama-based learning are in the subject of Odia language, with 38 students (76%). This is followed by English with 23 students (46%) and Hindi with 19 students (38%). Social Science demonstrates a participation rate of 12 students (24%) who studied through DBL. On the other hand, the percentages of students utilising DBL for Science/EVS and Mathematics are 22% and 6%, respectively.

It is noteworthy that the percentages of students who studied Science and Mathematics using DBL are the lowest among all the subjects. This observation may be attributed to the common perception that Mathematics is a challenging and less

engaging subject, often requiring more traditional teaching methods. However, the implementation of drama-based learning approaches has the potential to make Mathematics more captivating and aid students in grasping complex concepts effectively. Overall, the data indicates that drama-based learning is a popular and effective pedagogical approach for teaching various subjects, particularly language-based subjects such as Odia, English, and Hindi.

Table 3: Perception on Drama-based Learning or DBL

Statements	Mean	SD
DBL is more interesting than traditional classroom teaching.	4.36	0.6
DBL doesn't help with communication skills development.*	4.30	0.6
Students enjoy participating in DBL activities for school subjects.	4.30	0.7
DBL doesn't generate new ideas.*	4.44	0.8
DBL helps to develop bonding with friends.	4.32	0.7
DBL doesn't encourage exploration and discovery.*	4.28	0.8
DBL is seen as a waste of time for learning a subject.*	4.20	1.0
DBL helps develop questioning skills.	4.20	0.7
Students' suggestions are not always welcomed during drama preparation.*	3.98	1.0
Discussions in DBL help with critical thinking.	3.90	0.8
DBL makes learning more flexible.	4.22	0.8
DBL does not help with academic performance.*	3.78	1.1
DBL does not make students isolated from society.	3.82	1.1
DBL makes students more confident in expressing themselves.	4.48	0.8
DBL makes learning more engaging and memorable.	4.42	0.8
DBL does not help with understanding complex concepts.*	3.80	1.0
Drama activities keep students physically active.	4.38	0.6
DBL doesn't help with understanding the feelings of others.*	4.42	0.6
DBL helps develop problem-solving skills.	4.10	0.6
DBL activities are a valuable addition to the school curriculum.	4.12	0.9
Total	**4.19**	**0.81**

(Items marked with * are negative statements, for which reverse scoring has been applied.)

The analysis of the mean scores (Table 3) reveals that students hold a generally positive perception of drama-based learning. The pooled mean score is 4.19, ranging from 3.78 to 4.48, indicating that students largely agree or strongly agree with statements reflecting a favourable perception of drama-based learning in various elementary school subjects.

Statements 1, 4, 5, 6, 8, 11, 14, 15, 17, 18, 19, and 20 all surpass a mean score of 4, signifying that students strongly agree with these statements. These statements highlight the benefits of drama-based learning, including its ability to engage students, stimulate the generation of new ideas, foster exploration and discovery, develop questioning skills, make learning more flexible and memorable, promote physical activity, enhance understanding of others' emotions, cultivate problem-solving skills, and serve as a valuable addition to the school curriculum.

Statements 2, 3, and 7 receive mean scores around 4, indicating that students generally agree with these statements. Statement 2 suggests that DBL contributes to the development of communication skills, statement 3 implies that students derive enjoyment from participating in DBL activities for school subjects, and statement 7 reveals that some students perceive DBL as a waste of time for subject learning.

On the other hand, statements 9, 10, and 16 obtain lower mean scores compared to the other statements, indicating that students are less certain or disagree with these statements. Statement 9 suggests that students' suggestions are not always welcomed during drama preparation, statement 10 asserts that DBL discussions aid in critical thinking (which some students may not agree with), and statement 16 implies that DBL does not assist in understanding complex concepts (which some students may disagree with).

Overall, the majority of statements express positive attitudes towards drama-based learning; nevertheless, there are a few statements where students may not agree or may hold different perceptions. It is crucial to acknowledge these varying perspectives when implementing drama-based learning in the classroom and to address any concerns or issues that students may have.

Upon further analysis of the various aspects of students' perceptions, it becomes evident that they hold a positive view. The items in each category and the mean score of each are shown in Table 4.

Table 4: Aspects of students' perception and distribution of items with score in each

Sl.No.	Aspect of students' Perception	Items	Mean Score
1.	Students' interest	1,3,7,9	4.21
2.	Students' motivation	3,4,6	4.34
3.	Students' engagement	8,11,15,17	4.305
4.	Interpersonal skills	2,5,13, 18	4.215
5.	Communication skills	2,8,14	4.32
6.	Improved academics	10,12,16,19,20	3.94

The average of each aspect exceeds the score of 4 except the perception about overall improvement in academics. Here the average is slightly less than 4 which may be attributed to items 10, 12 and 16 that have been given less preference by the participants giving each a score less than 4.0. Thus, we may infer that students perceive a relatively less advantage in improvement in academics as compared to other aspects. It must, however, be highlighted that they perceive DBL as having a positive impact on improvement of academics albeit not as much as on engagement, motivation, communication, and interpersonal skills.

Table 5: Difference in perception of students towards drama-based learning by gender

Group	N	Mean	SD	Pooled SD	t-value	df	Sig.
Boy	28	4.12	0.73	0.698	1.68	48	0.100
Girl	22	4.28	0.63				

The mean value of drama-based learning score for girls is 4.28, while for boys it is 4.12. This indicates that, on average, girls have a more favourable perception of drama-based learning compared to boys. However, it is important to note that the standard deviation of the drama-based learning score is relatively low for both groups, with

standard deviations of 0.63 and 0.73 for girls and boys, respectively. This suggests that the scores for both boys and girls are tightly clustered around their respective means.

To determine if the difference in mean values between boys and girls is statistically significant, a t-test was conducted. The calculated t-value is 1.68, which is lower than the critical value of 2.011 at a significance level of 0.05 with 48 degrees of freedom. As a result, the study does not find sufficient evidence to support a significant contrast in the perception of drama-based learning between boys and girls.

Difference in Subject Preference

To assess the students' preferences for subjects to be taught using drama-based learning, they were asked to rank four board subjects. In order to determine if there was a significant difference in the rankings of subject preference, the Friedman test was conducted. The results of the test are presented below.

Table 6: Preference of Subjects

Subject	Rank 1	Rank 2	Rank 3	Rank 4	Rank Sum
Language	23	12	9	6	50
Mathematics	4	5	11	30	50
Science & EVS	5	19	18	8	50
Social Science	18	14	12	6	50
Rank Mean	12.5	12.5	12.5	12.5	
Friedman Chi-Square (x2)					8.67
Df					3
p-value					<0.005
Nemenyi Post-hoc Test					
Nemenyi Critical Difference					1.46
Pairs of subjects	**Difference**	**q value**			**Result**
Language vs Mathematics	19	13.01			Significant
Language vs Science & EVS	18	12.33			Significant
Language vs Social Science	5	3.42			Significant
Mathematics vs Science & EVS	−1	−0.68			Not Significant
Mathematics vs Social Science	−14	−9.59			Significant
Science & EVS vs Social Science	−13	−8.90			Significant

Based on the Friedman chi-square test statistic of 8.67, which exceeds the critical value of 7.815 at a significance level of 0.005, we can conclude that there is a significant difference in the preference of four subjects. To further analyse the differences in subject preferences, a post-hoc analysis was conducted using the Nemenyi test.

The Nemenyi post-hoc test results indicate that the preference for Language show a significant difference (>2.73@0.005) compared to Mathematics, Science & Environmental Studies (EVS), and Social Science. Additionally, the preference for Social Science is significantly different over Mathematics and Science & EVS. However, there is no significant difference in preference of Mathematics and Science & EVS.

These findings suggest that students have a preference for learning Language and Social Science through drama-based teaching, as these subjects were preferred significantly over Mathematics and Science & EVS.

Suggestions

Here are some suggestions for promoting the use of drama-based teaching in school subjects:

1. Promote the use of drama-based activities in teaching school subjects, with a particular focus on developing innovative methods in mathematics and science to effectively teach complex content. By integrating drama into these subjects, students can engage with the material in a more interactive and immersive manner, enhancing their understanding and enjoyment of these subjects.
2. Encourage teachers to develop innovative ideas to incorporate drama into their respective subjects. Teachers should be encouraged to explore creative approaches that leverage dramatic techniques to make lessons more engaging and interactive. This could involve incorporating role-playing, improvisation, or other theatrical elements to bring subjects to life and capture students' interest.
3. Foster the practice of multidisciplinary and interdisciplinary drama in schools. This approach allows students to make connections between different subjects, providing a holistic understanding of how knowledge intersects across disciplines. By linking various subjects through drama, students can develop a broader perspective and see the relevance and interconnectedness of their learning.
4. Introduce drama pedagogy in pre-service and in-service teacher education programs. It is essential to equip teachers with the knowledge and skills necessary to effectively incorporate drama-based teaching methods into their classrooms. By integrating drama pedagogy into teacher training programs, educators can learn how to design and facilitate engaging drama activities that enhance student learning and participation.
5. Provide financial assistance to support the implementation of drama-integrated teaching and learning programs both within and outside of school. This could include allocating resources for drama workshops, hiring drama specialists to collaborate with teachers, or acquiring materials and props for drama-based activities. Financial support will enable schools to create immersive and enriching learning experiences through drama.

By implementing these suggestions, schools can harness the power of drama-based teaching to create dynamic and effective learning environments. Drama can enhance student engagement, foster creativity, promote interdisciplinary learning, and ultimately contribute to a well-rounded education.

Conclusion

Based on the findings of the study, it can be concluded that drama-based teaching is a highly effective method for enhancing the teaching and learning of school subjects, particularly in the realm of language education. The research revealed that learners experienced a notable increase in motivation, engagement, and interest when drama-based approaches were utilised. Moreover, drama was found to have a positive impact on learners' communication skills and social-emotional development. Therefore, it is strongly recommended that educators consider integrating drama into their teaching practices, especially for subjects that are often perceived as tedious or challenging to grasp. To ensure successful implementation, it is crucial for educators to receive adequate training and support in utilising drama-based pedagogies effectively and appropriately.

Furthermore, it is advisable to conduct further research to explore the potential benefits and limitations of drama-based pedagogies in diverse educational contexts and for a range of subjects. This would

contribute to a more comprehensive understanding of the efficacy of drama in different learning environments. Additionally, future studies should investigate the impact of drama-based pedagogies on learners from diverse backgrounds and with varying learning needs. Such research would shed light on the inclusivity and adaptability of drama-based approaches, allowing educators to tailor their instruction to meet the needs of all learners effectively.

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