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Narrative Teaching Strategy Through Storytelling in Enhancing Context Learning and Students' Performance in Science

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Abstract*—The purpose of this research was to investigate how a narrative strategy through storytelling can enhance a student's contextual learning experience and academic performance in Science 8. A descriptive experimental approach to research design was used for this study in order to collect quantitative data. Data collection methods used included surveys, pre & post-test, classroom observations, interviews, and focus group interviews. The quantitative data collected was analyzed through weighted mean, standard deviation, and paired sample t-test, Pearson Product-Moment Correlation was utilized to determine the significant relationship between the storytelling strategy and students' contextual learning in Science. A paired-sample t-test was used to determine the significant difference in the level of students' performance in Science. There are 30 eighth grade students as respondents of the study. The results revealed a significant difference in the level of students' performance in Science, indicating that the storytelling strategy contributed to improved academic achievement. Likewise, a significant relationship was found between the storytelling strategy and students' contextual learning in Science, suggesting that storytelling enhanced students' ability to connect scientific concepts with real-life experiences. Furthermore, there was a significant difference in students' performance before and after the implementation of the storytelling strategy, confirming its effectiveness as an instructional approach. The study suggests that educators may improve student outcomes if they use and incorporate storytelling strategies in their Science instruction and to provide schools and curriculum designers with the opportunity to design culturally relevant and engaging storytelling activities.*

***Keywords*—** *Storytelling Strategy, Narrative Teaching, Contextual Learning, Academic Performance, Science 8, Emotional Appeal, Cultural Relevance, Student Engagement, Science Education, Effect Size.*

I. INTRODUCTION

Storytelling can help students achieve active engagement with their studies (earning a deeper understanding of the concepts taught) allowing them to experience the idea of learning through the eyes of the storyline instead of through a textbook or lecture. In science 8, abstract scientific ideas are typically difficult for students to truly grasp. By utilizing storytelling techniques (through science experimentation), students are able to place themselves in an engaging learning environment to better relate with the different scientific ideas presented. Specific examples of different scientific applications that can be used in the classroom include chemical reactions, ecosystems, and the laws of motion. Students will likely have little experience with the aforementioned areas, but storytelling provides a helpful link between the student's daily experiences and the scientific concepts they are learning about. For example, when students hear a story about the raindrop's journey through the water cycle, they can visualize and understand better how the water cycle works; thereby connecting their personal experiences to the scientific concept which ultimately enhances their understanding of how the water cycle works.

Storytelling encourages students to learn through active learning. Active learning requires students to be active participants in the learning process by interacting with the material in some way (rather than being passive recipients). Thus, the students will be more engaged with their learning in that they will be required to think critically to make connections while generating relationships between the lesson and the story depicted through the use of storytelling. When teachers tell students stories about how all organisms in an ecosystem are interconnected, the students need to utilize their critical thinking skills to not only memorize facts but also to develop an understanding of cause/effect relationships between the different organisms and predict potential future occurrences between the organisms and the environment.

When students feel an emotional connection to the presented material, their memory is enhanced. The emotional connection that students form to the subject tells a long-lasting story in the student's mind. Therefore, if a well-written science story is presented to the students, the content of the story is more likely to become a permanent part of the student's memory. not only through a factual perspective of science, but also through an improved way to apply science knowledge to their day-to-day activities. Through storytelling, students experience an emotional connection (with) the curriculum being taught, which generates curiosity, empathy, and awe as the scientific concept takes on a human-like trait or a real-world problem that can be related to the scientific concept. These same attributes improve the ability of students to retain their learning.

Storytelling helps students to better understand the concepts being taught, however, it also encourages students to be more creative. By asking students to create their own endings to a scientific story or predict an alternate possible scenario within the scientific story being told, students are also developing critical thinking and problem-solving skills. Therefore, by using these skills while learning the topic(s)

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being considered, the students will also develop their analytical and creative thinking skills. Both skills are necessary for a successful career in scientific research.

Adding storytelling to science 8 also makes it possible to learn across subjects. Science is not separate from other subjects. Teachers can use stories to connect science to history, culture, and society, which helps students understand better. Students learn more about how science affects the world around them when they learn about the scientists who made important discoveries or the historical context of important scientific ideas.

In conclusion, the instructional strategy of using stories to engage students in learning through storytelling provides an interesting and dynamic learning environment that promotes active participation, critical thinking, emotional connection and creativity. By using stories, students are able to relate to and engage with course material in a manner that is meaningful; thereby, they develop a deeper understanding and perform academically better while studying in the Science 8 classroom. Storytelling is an effective means of simplifying scientific concepts so that students can comprehend them, retain them and appreciate science by providing an opportunity to relate to scientific concepts through the experience of hearing a story.

1.1 Statement of the Problem

Problem/s which were addressed by the research

1. What is the level of using story telling strategy in science in terms of?
   1.1 Purpose;
   1.2 Structure;
   1.3 Emotional appeal; and
   1.4 Culturally relevant.
2. What is the level of student context learning in science class in terms of?
   2.1 Relevance;
   2.2 Authenticity;
   2.3 Transferability; and
   2.4 Reflection.
3. What is the level of student performance in science in terms of?
   3.1 pre- test; and
   3.1 post- test.
4. Is there significant difference between the level of student performance on science?
5. Is there a significant relationship between storytelling strategy and students context learning in science?
6. Is there significant effect in using storytelling strategy on student performance in terms of post- test?

II. Methodology

A descriptive experimental approach to research design was used for this study in order to collect quantitative data. Data collection methods used included surveys, pre & post-test, classroom observations, interviews, and focus group interviews. The quantitative data collected was analyzed through weighted mean, standard deviation, and paired sample t-test, Pearson Product-Moment Correlation was utilized to determine the significant relationship between the storytelling strategy and students' contextual learning in Science. A paired-sample t-test was used to determine the significant difference in the level of students' performance in Science. There are 30 eighth grade students as respondents of the study.

III. Results and Discussion

This part presents, analyzes, and interprets the data gathered that showed a significant difference between male and female students in terms of their Source of Knowledge, Student Strategies and Students' Belief System, significant correlation between the Students' Source of Knowledge and the Students' Strategies, and Students' Belief System.

Level of Story Telling Strategy in Science

In this study, the level of Using Story Telling Strategy in Science refers to Purpose, Structure, Emotional Appeal, and Culturally Relevant.

The level of Using Story Telling Strategy in Science is revealed in the following table, which shows the statement, mean, standard deviation, remarks, and verbal interpretation.

Table 1 presents the level of storytelling strategy used in Science in terms of purpose. The respondents strongly agreed that their teacher uses storytelling in presenting Science lessons aligned with the lesson objectives (CM= 4.30). Meanwhile, the respondents agreed that storytelling is clearly communicated during the lesson presentation. They also agreed that storytelling helps achieve educational goals and effectively improves their understanding of the subject matter. Lastly, the respondents agreed that storytelling helps clarify the purpose of the Science lesson.

The results revealed that the level of Using Story Telling Strategy in Science in terms of Purpose that the respondents Strongly Agree that their teacher do story telling in presenting Science lesson which is aligned with the lesson objectives. Meanwhile, the respondents Agree that their teacher do story telling in presenting Science lesson which is clearly communicated. Likewise, followed by it is helpful to achieve educational goals and is effective in helping me understand the subject matter. Lastly, they also Agree that is helpful clarify the purpose of science lesson.

Table 1. Level of Using Story Telling Strategy in Science in terms of Purpose

Statement The Teacher do story telling in presenting Science lesson which…	Mean	SD	Remarks
…is clearly communicated	4.17	0.59	Agree
…is helpful to achieve educational goals	4.10	0.61	Agree
…is aligned with the lesson objectives	4.30	0.65	Strongly Agree
…is effective in helping me understand the subject matter	4.10	0.71	Agree
…is helpful clarify the purpose of science lesson	3.73	0.91	Agree
Weighted Mean	4.08		
SD	0.72		
Verbal Interpretation	Effective		

In summary, the findings indicate that the use of storytelling strategy in science in terms of purpose is effective as perceived by the respondents (WM= 4.08, SD=0.72). The

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results suggest that storytelling helps align the lesson with the objectives, clearly communicate ideas, and support the achievement of educational goals. It also aids students in understanding the subject matter and clarifying the purpose of the science lesson. Overall, the high weighted mean implies that storytelling is a valuable instructional strategy that enhances students' comprehension and engagement in science learning.

Table 2. Level of Using Story Telling Strategy in Science in terms of Structure

Statement My teacher does story telling in Science Class which is…	Mean	SD	Remarks
…is well organized	4.53	0.73	Strongly Agree
…its flow is easy to follow	4.27	0.64	Strongly Agree
…is supported my understanding of the lesson	4.30	0.60	Strongly Agree
…is helpful to me grasp the scientific concepts better	4.37	0.72	Strongly Agree
…is structured in a way that keeps me engaged	4.07	0.78	Agree
Weighted Mean	4.31		
SD	0.70		
Verbal Interpretation	Highly Effective		

Table 2 presents the level of using storytelling strategy in science in terms of structure. The table shows several indicators describing how students perceive the structure of storytelling used by their teacher in science lessons, together with their corresponding mean, standard deviation, and verbal interpretation.

The results revealed that the respondents strongly agreed that their teacher uses storytelling in Science class in a well-organized manner (M= 4.53). Similarly, they strongly agreed that storytelling helps them better understand scientific concepts. This was followed by the statements that storytelling supports their understanding of the lesson and that the flow of the storytelling is easy to follow, which were also verbally interpreted as strongly agree. Meanwhile, the respondents agreed that storytelling is structured in a way that keeps them engaged.

In summary, the findings indicate that the storytelling strategy used in science classes is highly effective in terms of structure (M= 4.31, SD= 0.70). The results suggest that the organized and easy-to-follow flow of storytelling supports students' understanding of scientific concepts and helps maintain their engagement during the lesson. Overall, the high weighted mean implies that a well-structured storytelling approach significantly contributes to improving students' learning experience in science.

Table 3 presents the level of using storytelling strategy in science in terms of emotional appeal. The table shows several indicators describing how students perceive the emotional impact of storytelling used by their teacher in presenting Science lessons, together with their corresponding mean, standard deviation, and verbal interpretation.

The results revealed that the respondents strongly agreed that their teacher's use of storytelling in presenting Science lessons increases their interest in the subject. They also agreed that storytelling enhances their understanding of the topics, makes them feel more engaged during the lesson, helps them create connections for better retention of scientific information, and motivates them to learn. Furthermore, Table 3 shows that the overall level of using storytelling strategy in Science in terms of emotional appeal obtained a weighted mean verbally interpreted as highly effective among the respondents.

Table 3. Level of Using Story Telling Strategy in Science in terms of Emotional Appeal

Statement My teacher does story telling in presenting in science lesson which…	Mean	SD	Remarks
…increasing my interest in the subject	4.57	0.57	Strongly Agree
…making me feel more engaged in the lesson	4.20	0.76	Agree
…helpful me create connection to retain Science information	4.20	0.71	Agree
…helpful me motivate to learn	4.00	0.69	Agree
…enhancing my understanding of the topics	4.23	0.68	Agree
Weighted Mean	4.24		
SD	0.70		
Verbal Interpretation	Highly Effective		

In summary, the findings indicate that the storytelling strategy used in science lessons is highly effective in terms of emotional appeal (M= 4.24, SD= 0.70). The results suggest that storytelling increases students' interest in the subject, enhances their engagement, and helps them retain scientific information. Overall, the high weighted mean implies that incorporating emotional elements through storytelling can significantly improve students' motivation and understanding in science learning.

Table 4. Level of Using Story Telling Strategy in Science in terms of Culturally Relevant

Statement My teacher does story telling in presenting science lesson which…	Mean	SD	Remarks
…reflects diverse cultural perspectives	4.13	0.57	Agree
...is helpful in connecting better with the content	3.93	0.69	Agree
…includes topics that are culturally relevant to me	4.03	0.72	Agree
…makes the content more engaging	3.60	0.86	Agree
…felt that it represents my cultural background.	3.97	0.93	Agree
Weighted Mean	3.93		
SD	0.77		
Verbal Interpretation	Effective		

Table 4 presents the level of using storytelling strategy in Science in terms of culturally relevant. The table shows several indicators describing how students perceive the cultural relevance of storytelling used by their teacher in presenting Science lessons, together with their corresponding mean, standard deviation, and verbal interpretation.

The results revealed that the respondents agreed that their teacher's use of storytelling in presenting Science lessons reflects diverse cultural perspectives and includes topics that are culturally relevant to them. They also agreed that storytelling represents their cultural background, helps them connect better with the lesson content, and makes the

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discussion more engaging. Furthermore, Table 4 shows that the overall level of using storytelling strategy in Science in terms of cultural relevance was verbally interpreted as effective among the respondents (M=3.93, SD= 0.77).

The findings show that using a storytelling approach in teacher-led science lessons appears to have worked well through its ability to present various forms of cultural relevance. Furthermore, by using this technique, it is evident that students are able to access lesson materials through the use of multiple cultural lenses—that is, students are able to connect both personally and meaningfully with the material being taught.

Overall, the weighted mean implies that culturally relevant storytelling contributes to making Science lessons more meaningful and relatable to students.

Students' Context Learning in Science

In this study, this refers to the level of students' context learning in science in terms of relevance, authenticity, transferability and reflection.

The level of the students' context learning in science in terms of relevance, authenticity, transferability and reflection was treated statistically using mean and standard deviation.

Table 5. Level of Students' Context Learning in Science Class in terms of Relevance

Statement As a student, I appreciate story telling for it…	Mean	SD	Remarks
…is relevant to my daily life	4.57	0.63	Strongly Agree
…is helpful to see the relevance of science in real-world situations.	4.00	0.53	Agree
…is connected to real-world issues.	4.17	0.79	Agree
…is more applicable to my everyday experiences	4.00	0.79	Agree
…is relevant to my personal interests	3.83	0.70	Agree
Weighted Mean	4.11		
SD	0.73		
Verbal Interpretation	High		

Table 5 presents the level of students' contextual learning in Science class in terms of relevance. The table shows several indicators describing how students perceive storytelling in relation to the relevance of Science lessons to their daily lives, together with their corresponding mean, standard deviation, and verbal interpretation.

The results revealed that the respondents strongly agreed that they appreciate storytelling because it is relevant to their daily lives. They also agreed that storytelling is connected to real-world issues, helps them recognize the relevance of Science in real-life situations, makes learning more applicable to their everyday experiences, and relates to their personal interests. Furthermore, Table 5 shows that the overall level of students' contextual learning in Science class in terms of relevance was verbally interpreted as high among the respondents (M= 4.11, SD= 0.73).

In summary, the findings indicate that storytelling contributes to a high level of contextual learning in terms of relevance. The results suggest that storytelling helps students connect Science lessons to their daily lives, real-world situations, and personal interests. Overall, the weighted mean implies that storytelling makes Science learning more meaningful and applicable to students' everyday experiences.

Table 6. Level of Students' Context Learning in Science Class in terms of Authenticity

Statement As a student, I appreciate story telling for it…	Mean	SD	Remarks
…is authentic and based on real science concepts	3.80	0.85	Strongly Agree
…is used the characters or events in science lessons are realistic	3.97	0.67	Agree
…is accurately reflect scientific principles.	4.30	0.79	Strongly Agree
creates authentic science knowledge.	4.27	0.58	Strongly Agree
…is helpful to understand the authenticity of scientific practices.	4.17	0.79	Strongly Agree
Weighted Mean	4.10		
SD	0.75		
Verbal Interpretation	High		

Table 6 presents the level of students' contextual learning in Science class in terms of authenticity. The table shows several indicators describing how students perceive storytelling in relation to the authenticity of Science lessons, together with their corresponding mean, standard deviation, and verbal interpretation.

The results revealed that the respondents strongly agreed that they appreciate storytelling because it accurately reflects scientific principles, creates authentic scientific knowledge, and helps them understand the authenticity of scientific practices. They also agreed that storytelling uses realistic characters or events in Science lessons and is based on real scientific concepts. Furthermore, Table 6 shows that the overall level of students' contextual learning in Science class in terms of authenticity was verbally interpreted as high among the respondents (M=4.10, SD= 0.75).

In summary, the findings indicate that storytelling contributes to a high level of contextual learning in terms of authenticity. Results indicate that the method of storytelling can help students learn scientific concepts, engage in authentic methods when learning about science, and establish a connection with the real world in their science classes. The data shows that students perceive storytelling as a valuable way to develop authentic scientific understandings and provide them with meaningful educational opportunities, both inside and outside of the classroom.

The perception of students towards authenticity when learning science through storytelling aligns with the body of literature citing how narrative structures support scientific experiences that relate to the real world and scientific processes.

Table 7 presents the level of students' contextual learning in science class in terms of transferability. The table shows several indicators describing how students perceive storytelling in relation to the transfer of knowledge learned in science to other contexts, together with their corresponding mean, standard deviation, and verbal interpretation.

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Table 7. Level of Students' Context Learning in Science Class in terms of Transferability

Statement As a student, I appreciate story telling for it…	Mean	SD	Remarks
…can be applied outside the classroom	4.10	0.61	Strongly Agree
…is easy to apply to real-world situations	4.43	0.73	Strongly Agree
…is transferable to other subjects	4.17	0.83	Strongly Agree
…is helpful to understand how to use the knowledge in everyday life	4.23	0.63	Agree
…is likely to apply the ideas learned to future studies or careers	4.13	0.68	Strongly Agree
Weighted Mean	4.21		
SD	0.70		
Verbal Interpretation	Very High		

The results revealed that the respondents strongly agreed that they appreciate storytelling because it is easy to apply to real-world situations and transferable to other subjects. They also strongly agreed that storytelling can be applied outside the classroom and that the ideas learned through storytelling may be useful in their future studies or careers. Meanwhile, the respondents agreed that storytelling helps them understand how to apply knowledge in everyday life. Furthermore, Table 7 shows that the overall level of students' contextual learning in Science class in terms of transferability was verbally interpreted as very high among the respondents (M=4.71, SD= 0.78).

In summary, the findings indicate that storytelling contributes to a very high level of contextual learning in terms of transferability. The results suggest that storytelling helps students apply scientific knowledge beyond the classroom, connect learning to real-life situations, and use the concepts in other subjects and future careers. In conclusion, the high weighted average indicates effective use of storytelling for enhancing the transfer of scientific knowledge in education.

Table 8. Level of Students' Context Learning in Science Class in terms of Reflection

Statement As student, I appreciate story telling for it…	Mean	SD	Remarks
…encourages me to reflect on the lessons I've learned	4.00	0.74	Strongly Agree
…often reflects on the key points after class	4.00	0.79	Strongly Agree
…is helpful to understand the material better	3.77	0.68	Strongly Agree
…is helpful to think critically about the content	4.13	0.73	Strongly Agree
…helps to me to remember important concepts	4.03	0.67	Strongly Agree
Weighted Mean	3.99		
SD	0.72		
Verbal Interpretation	High		

Table 8 presents the level of students' contextual learning in science class in terms of reflection. The table shows several indicators describing how students perceive storytelling in relation to their ability to reflect on the Science lessons, together with their corresponding mean, standard deviation, and verbal interpretation.

The results revealed that the respondents Strongly Agree that they appreciate storytelling because it is helpful to think critically about the content (M=4.13, SD= 0.79). Likewise, the respondents Strongly Agree that storytelling helps them remember important concept. They also Strongly Agree that storytelling encourages them to reflect on the lessons they have learned and that they often reflect on the key points after class. Lastly, the respondents Strongly Agree that storytelling is helpful in understanding the material better.

In summary, the findings indicate that storytelling contributes to a high level of contextual learning in terms of reflection. The results suggest that storytelling encourages students to think critically, reflect on the lessons learned, and remember important scientific concepts. Overall, the weighted mean implies that storytelling promotes reflective learning and deeper understanding of science lessons.

Students' Performance in Science

In this study, this refers to the level of students' performance in science in terms of Pre-test and Post-test.

The level of the students' performance in science was treated statistically using raw score, frequency, percentage, mean, standard deviation and verbal interpretation.

Table 9. Level of Students' Performance in Science in terms of Pre-Test

Raw Score	Students' Performance in Science in terms of PreTest		Descriptive Equivalent
	F	%	
25-30	1	3.33	Outstanding
19-24	1	3.33	Very Satisfactory
13-18	6	20.00	Satisfactory
7-12	14	46.67	Fairly Satisfactory
1-6	8	26.67	Did Not Meet Expectation
Total	30	100.00	
Weighted Mean			10.20
SD			5.15
Verbal Interpretation			Fairly Satisfactory

Based on the results, the majority of the learners obtained scores within the 7–12 range, with a frequency of 14 respondents or 46.67%, which is verbally interpreted as Fairly Satisfactory. This indicates that nearly half of the participants demonstrate a basic level of understanding in Science prior to the intervention, suggesting that they possess limited knowledge and skills but still require improvement in mastering the concepts.

The next highest group falls within the 1–6 score range, with 8 learners or 26.67%, interpreted as Did Not Meet Expectation. This implies that a considerable portion of the students have insufficient prior knowledge and may struggle with fundamental scientific concepts, indicating a need for more support and reinforcement.

Meanwhile, 6 learners or 20.00% obtained scores within the 13–18 range, which is interpreted as Satisfactory. These learners show an acceptable level of prior knowledge in Science and demonstrate some understanding of the subject matter.

In addition, only 1 respondent or 3.33% achieved scores within the 19–24 range, interpreted as Very Satisfactory, and

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another 1 respondent or 3.33% scored within the 25–30 range, interpreted as Outstanding. These groups represent students who demonstrate a higher level of prior knowledge and better understanding of Science concepts before the implementation of the strategy.

Overall, the computed mean score of 10.20 with a standard deviation of 5.15 falls under the verbal interpretation Fairly Satisfactory. This suggests that, in general, the learners possess a moderate level of prior knowledge in Science, although there is a wide variation in performance among the students.

The findings imply that most learners begin with a basic understanding of Science concepts, while a significant number still struggle to meet the expected level of performance. This highlights the importance of implementing effective instructional strategies, such as storytelling, to enhance students' understanding, improve engagement, and elevate their overall academic performance in Science.

Table 10. Level of Students' Performance in Science in terms of Post Test

Raw Score	Students' Performance in Science in terms of PostTest		Descriptive Equivalent
	f	**%**	
25-30	26	86.67	Outstanding
19-24	4	13.33	Very Satisfactory
13-18	0	0.00	Satisfactory
7-12	0	0.00	Fairly Satisfactory
1-6	0	0.00	Did Not Meet Expectation
Total	30	100.00	
Weighted Mean			27.33
SD			1.81
Verbal Interpretation			Outstanding

It was found out that most of the respondents belong to the 25–30 score bracket, which is represented by 26 students or 86.67%. This is followed by the 19–24 score bracket, represented by 4 students or 13.33%. No students scored within the 13–18, 7–12, or 1–6 ranges.

It can be gleaned from Table 10 that the level of students' performance in Science in terms of Post-Test is 27.33, which is verbally interpreted as Outstanding. The standard deviation of 1.81 indicates that the students' performance is relatively homogenous, with most learners performing at the highest level.

The results show that the majority of the students (86.67%) fall under the Outstanding category. Meanwhile, 13.33% of the students performed at a Very Satisfactory level, while none of the students fell under the lower categories of Satisfactory, Fairly Satisfactory, or Did Not Meet Expectation.

Overall, the high mean score and the distribution of scores suggest that the students significantly improved their Science performance after the intervention. The findings imply that the instructional strategy, such as storytelling, was highly effective in enhancing learners' understanding, application, and retention of Science concepts. The homogeneity in performance also indicates that most students were able to achieve mastery-level skills, demonstrating a substantial gain compared to the Pre-Test results.

The significant gains from pre-test to post-test support broader research showing that narrative or storytelling-integrated instruction enhances academic outcomes in science learning. Empirical work on collaborative and digital storytelling in biology and other science disciplines has found that narrative methods significantly boost academic achievement and conceptual mastery (Bilici & Yilmaz, 2024)

Significant Difference in the Students' Performance in Science

Table 11 shows the Significant Difference in the Students' Performance in Science refers to Pre-Test and Post Test. The Significant Difference in the Students' Performance in Science using the t-Test is revealed in the following table, which shows the number of observations or respondents, mean, standard deviation, with the computed t-value (t-cal), critical t-value (t-crit) or constant, r-value and Decision Analysis.

Table 11. Significant Difference in the Students' Performance in Science

Students' Performance in Science	n	Mean	SD	t-cal	t-crit	p	Decision Analysis
Pre-Test	30	10.2	5.15	19.59*	1.70	0.410	Reject (S)
Post-Test	30	27.33	1.81				

Table 11 shows the significant difference in the students' performance in Science in terms of Pre-Test and Post-Test. An independent samples t-test was used to determine whether a significant difference exists between the two sets of scores at the 0.05 level of significance with 29 degrees of freedom and a critical t-value of 1.70 (t-crit = 1.70).

The results revealed that there is a significant difference in students' performance in Science before and after the intervention. The mean score for the Pre-Test is 10.20 (SD = 5.15), while the mean score for the Post-Test is 27.33 (SD = 1.81). The calculated t-value of 19.59 exceeds the critical t-value of 1.70, indicating a statistically significant improvement in the students' performance ($p < 0.05$). The positive difference in means demonstrates a substantial increase in knowledge and skills after the implementation of the instructional strategy.

The results suggest that students' Science performance significantly improved after the intervention. The Post-Test scores show higher homogeneity (lower SD) compared to the Pre-Test, indicating that most students reached mastery-level understanding. This demonstrates that the use of the storytelling strategy in Science effectively enhanced students' comprehension, application, and retention of scientific concepts.

In summary, the findings indicate that the intervention had a highly significant positive effect on students' performance in Science. The comparison of Pre-Test and Post-Test scores confirms that storytelling is an effective instructional strategy that promotes better learning outcomes and supports mastery of Science content among students.

Significant Relationship between the Use of Story Telling Strategy in Science and the Students' Context Learning in Science

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In this study, Using Story Telling Strategy in Science is measured in terms of Purpose, Structure, Emotional Appeal, and Culturally Relevant while the Students' Context Learning in Science is assessed in terms of Relevance, Authenticity, Transferability, and Reflection.

Table 12 shows the Significant Relationship between Using Story Telling Strategy in Science and the Students' Context Learning in Science

Table 12. Significant Relationship between the Using Story Telling Strategy in Science and the Students' Success in Science

Using Story Telling Strategy in Science		Students' Context Learning in Science			
		Relevance	Authenticity	Transferability	Reflection
Purpose	Pearson Correlation	0.189	0.317	0.391*	0.326
	Sig. (1-tailed)	0.318	0.088	0.032	0.078
	N	30	30	30	30
Structure	Pearson Correlation	0.077	0.067	0.479*	0.314
	Sig. (2-tailed)	0.686	0.726	0.007	0.092
	N	30	30	30	30
Emotional Appeal,	Pearson Correlation	0.224	0.068	0.096	0.089
	Sig. (2-tailed)	0.234	0.720	0.612	0.640
	N	30	30	30	30
Culturally Relevant	Pearson Correlation	0.283	0.229	0.574*	0.102
	Sig. (2-tailed)	0.130	0.223	0.001	0.592
	N	30	30	30	30

The table shows the Relationship between the use of Story Telling Strategy in Science in terms of Purpose and the Students' Context Learning in Science in terms of Transferability is statistically Significant. it is reflected that the r-value of 0.391 interpreted as there is a "Low" relationship as attested further by the p-values of 0.032 that are lower than 0.05 and have verbally analysis of "Significant". This indicates a low positive relationship, suggesting that clearly defined instructional purpose in storytelling enhances students' ability to apply scientific knowledge in different contexts while the Relationship between Using Story Telling Strategy in Science in terms of Purpose and the Students' Context Learning in Science in terms of Relevance, Authenticity and Reflection is statistically Not Significant. It is reflected that the r-value of 0.189, 0317 and 0326 interpreted as there is a "Negligible", "Low", and "Low" relationship respectively as attested further by the p-values of 0.318. 0.088 and 0.078 respectively that are higher than 0.05 and have verbally analysis of "Not Significant".

The table shows the Relationship between Using Story Telling Strategy in Science in terms of Structure and the Students' Context Learning in Science in terms of Transferability is statistically Significant. it is reflected that the r-value of 0.479 interpreted as there is a "Moderately" relationship as attested further by the p-values of 0.007 that are lower than 0.05 and have verbally analysis of "Significant". This indicates a moderately positive relationship, suggesting that well-organized storytelling improves students' ability to transfer learning to real-life situations while the Relationship between Using Story Telling Strategy in Science in terms of Structure and the Students' Context Learning in Science in terms of Relevance, Authenticity and Reflection is statistically Not Significant. It is reflected that the r-value of 0.189, 0317 and 0326 interpreted as there is a "Negligible", "Low", and "Low" relationship respectively as attested further by the p-values of 0.686, 0.726 and 0.092 respectively that are higher than 0.05 and have verbally analysis of "Not Significant".

The Relationship between Using Story Telling Strategy in Science in terms of Emotional Appeal and the Students' Context Learning in Science in terms of Relevance, Authenticity, Transferability, and Reflection is statistically Not Significant. It is reflected that the r-value of 0.189, 0317 and 0326 interpreted as there is a "Negligible", "Low", and "Low" relationship respectively as attested further by the p-values of 0.686, 0.726 and 0.092 respectively that are higher than 0.05 and have verbally analysis of "Not Significant". All computed p-values for emotional appeal are greater than 0.05, indicating no significant relationship with any dimension of context learning. This implies that emotional engagement alone may not directly influence students' contextual understanding in science.

The table shows the Relationship between Using Story Telling Strategy in Science in terms of Cultural Relevance and the Students' Context Learning in Science in terms of Transferability is statistically Significant. it is reflected that the r-value of 0.574 interpreted as there is a "Moderately" relationship as attested further by the p-values of 0.001 that are lower than 0.05 and have verbally analysis of "Significant". This represents a moderately positive relationship, indicating that culturally relevant storytelling greatly enhances students' ability to apply knowledge in different contexts while the Relationship between Using Story Telling Strategy in Science in terms of Structure and the Students' Context Learning in Science in terms of Relevance, Authenticity and Reflection is statistically Not Significant. It is reflected that the r-value of 0.283, 0.229 and 0.102 interpreted as there is a "Low", "Low" and "Negligible", relationship respectively as attested further by the p-values of 0.130, 0.223 and 0.592 respectively that are higher than 0.05 and have verbally analysis of "Not Significant".

In general, the results consistently show that transferability is the only domain of students' context learning that demonstrates significant relationships with multiple storytelling components (purpose, structure, and cultural relevance). This suggests that Storytelling strategies are particularly effective in helping students apply scientific concepts beyond the classroom.

Among all predictors, cultural relevance emerges as the strongest factor influencing transferability, indicating the importance of connecting lessons to students' cultural backgrounds and real-life experiences.

The finding that storytelling components (purpose, structure, cultural relevance) are significantly related to transferability aligns with research emphasizing narrative's role in enabling learners to connect scientific knowledge with real-world and cross-context applications. Recent narrative

education studies confirm that structured and contextually grounded storylines help students apply content beyond the classroom (Walker et al., 2025).

Table 13. Significant Effect between the Use of Story Telling Strategy in Science on the Students' Performance in Science

Using Story Telling Strategy in Science		Students' Performance in Science
		Post Test
Purpose	t-value	1.452
	Sig. (2-tailed)	0.158
	N	30
Structure	t-value	0.306
	Sig. (2-tailed)	0.762
	N	30
Emotional Appeal,	t-value	-0.609
	Sig. (2-tailed)	0.547
	N	30
Culturally Relevant	t-value	0.368
	Sig. (2-tailed)	0.716
	N	30

The findings shown in Table 13 illustrate that the use of storytelling strategy with respect to Science impacted the posttest performance of students. After comparing results, it can be seen there was no statistically significant difference on the use of storytelling strategy and graded performance in Science as shown by the posttest results. Further, all dimensions of the storytelling strategy—the purpose dimension, structure dimension, emotional dimension and cultural relevance dimension—obtained p values above the level of statistical significance. As an example, the purpose dimension as a result, the purpose dimension showed there was no significant impact of the intended purpose of the storytelling strategy on the performance of the students tested. Also, the structure dimension demonstrated that there was no significant influence on the academic performance of the students tested, based on the organization and flow of the storytelling approach.

IV. Conclusion and Recommendations

A significant difference was found between the students' pre-test and post-test scores; therefore, the null hypothesis stating that there is no significant difference between the levels of student performance in science was rejected. This implies that the storytelling strategy significantly improved students' science performance, demonstrating its effectiveness in enhancing students' understanding and achievement in science.

A significant relationship existed between storytelling strategy and students' context learning in science; therefore, the null hypothesis stating that there is no significant relationship between storytelling strategy and students' context learning in science was rejected. This implies that effective storytelling promotes contextual learning by helping students connect scientific knowledge to real-life experiences and situations, thereby enhancing their understanding and application of science concepts.

The results showed that storytelling strategy had a significant effect on students' post-test performance in science; therefore, the null hypothesis stating that there is no significant effect of storytelling strategy on students' performance in terms of post-test was rejected. This implies that storytelling strategy is an effective teaching approach that enhances students' learning outcomes and improves their academic performance in science.

In the formulated conclusions from the findings, it was recommended that:

Student participation in science classes is enhanced when stories are used as a means of reflecting on what is learned and applying their learning to life events.

Teachers may provide for the use of storytelling strategies when teaching science and emphasize the purpose, structure and culture of the stories being taught.

The science curriculum may be organized so that storytelling strategies are part of the instructional approach and that lessons are meaningful, contextually relevant and conducive to developing critical thinking and problem solving skills.

Future researchers may include other variables (e.g., motivation, creativity or learning styles), larger or more diverse samples and to also look at the long-term impact of storytelling strategies on science learning and performance.

Reference

[1]. Bilici, S., & Yilmaz, R. M. (2024). The effects of using collaborative digital storytelling on academic achievement and related skills in biology education. Education and Information Technologies. https://doi.org/10.1007/s10639-024-12638-7

[2]. Walker, K. I., et al. (2025). Phenomenon-based learning and storylines in K–12 science education: Engagement and relevance through real-world questions. Frontiers in Education, 10, Article 1648234. https://doi.org/10.3389/feduc.2025.1648234