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The Relationship of Story-Based English Teaching on Primary Students' Creative Thinking: Mechanisms and Improvement Strategies

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Abstract

In the context of global education reform, which increasingly prioritizes core competencies, the cultivation of creative thinking has emerged as a critical objective in primary English education. Story-based instruction, esteemed for its contextual depth and engaging narrative qualities, serves as an effective medium for fostering creativity among young learners. This study examines the current implementation of story-based English instruction in primary schools, analyzing how its principal components relate to students' creative thinking across dimensions such as adventurousness, curiosity, imagination, and a challenging spirit. Utilizing data from 271 students in Grades 4 - 6 at a primary school, the study employs questionnaires, interviews, and structural equation modeling (SEM) to investigate teaching practices and their underlying associations. The findings indicate that: 1) the overall implementation of story-based instruction is robust, characterized by high levels of student interest and teacher engagement; 2) students' creative thinking exhibits distinct dimensional differences, with a challenging spirit being the most developed, while imagination is relatively weaker; and 3) among the core elements of story-based instruction, student interest is identified as the most significant predictor of creative thinking, teacher attention acts as a crucial supportive factor, classroom atmosphere supports only certain dimensions, and teaching strategies primarily associated with curiosity. These findings provide practical insights for English educators and contribute empirical evidence to the ongoing discourse on effectively fostering creative thinking in story-based language classrooms.

Keywords

Primary English Education, Story-Based Teaching, Creative Thinking,

Relationship Association, Teaching Strategies

1. Introduction

Cultivating creative thinking has become a central mission in basic education around the world. The 2021 PISA Creative Thinking Assessment (OECD, 2019) highlighted the global urgency of developing young learners' innovative capacities and reinforced the need for schools to integrate creativity more intentionally into everyday teaching. In English language education, especially at the primary level, creative thinking is associated with both linguistic development and broader cognitive growth. China's Compulsory Education English Curriculum Standards (2022 Edition) (Ministry of Education of the People's Republic of China, 2022) explicitly positions "thinking quality," including creative thinking, as a key component of students' core competencies.

Primary school represents a crucial developmental window. At this stage, children begin forming habits of imagination, curiosity, and problem-solving that shape their learning trajectories well into adolescence. Story-based English teaching, with its immersive scenarios and engaging plots, offers valuable opportunities for young learners to explore language meaningfully while developing creative thinking skills. Stories help students visualize contexts, predict events, negotiate meanings, and reconstruct narratives, all of which are linked to divergent thinking and cognitive flexibility.

Although existing studies acknowledge the value of stories in enhancing language and thinking, many classroom practices still prioritize vocabulary and grammar over creativity. Teachers often rely on simplified retelling activities, while deeper creative engagement, such as story extension, character redesign, or alternative endings, is less common. As a result, the potential of storytelling to cultivate creative thinking is not fully realized.

Against this background, the present study addresses three key questions:

RQ1: What are the characteristics of students' creative thinking development in the context of story-based English teaching?

RQ2: How do the core components of story-based instruction relate to different dimensions of creative thinking?

RQ3: How can story-based teaching be improved to more effectively support students' creative thinking?

By constructing a model that connects story-based teaching with the four dimensions of creative thinking, this study offers both theoretical insights and empirical evidence. It fills a gap in current research, which tends to examine the overall relationship between storytelling and creativity rather than exploring the specific associations through which teaching elements affect different aspects of creative thinking. The findings also respond to a pressing question in the field: How can English classrooms meaningfully integrate creativity development into every-

day teaching?

Our study contributes to TESOL practice by identifying key leverage points for teachers, clarifying practical challenges, and proposing actionable strategies that enable story-based teaching to support both language learning and creative development.

2. Literature Review and Theoretical Basis

2.1. Research on Story-Based Teaching

Although story-based teaching does not have a universally fixed definition, scholars generally agree that stories offer rich linguistic and cognitive contexts for language learning. In EFL classrooms, teachers often weave vocabulary, sentence structures, and communicative tasks into meaningful narratives. Through activities such as listening, retelling, dramatizing, or re-creating stories, students encounter language in ways that feel purposeful and enjoyable.

Early contributions to this field emphasized the pedagogical value of storytelling. Cooper (1989) identified stories as effective tools for promoting oral communication and student engagement. Building on this foundation, Ellis and Brewster (1991, 2014), Wright (1995), and Brier and Lebbin (2004) argued that stories are uniquely suited for young learners because they stimulate emotional connection, curiosity, and cognitive growth. Later studies continued to affirm that stories are associated with enthusiasm and greater participation. For instance, Davidson (2004) found that tailor-made stories, adapted to students' linguistic levels and classroom needs, can reduce comprehension difficulties and encourage active involvement.

Survey research also shows widespread learner and teacher support for story-based activities. Seng (2017) reported that most primary students enjoy listening to, reading, and performing stories, and that teachers view storytelling as an effective method for developing language and motivation. More recently, Ross and Johnson (2025) highlighted the role of storytelling in promoting flexibility, imagination, and conceptual understanding, especially when students work through complex or abstract ideas.

Beyond materials, researchers have also developed systematic story-based teaching approaches. The TPRS (Teaching Proficiency through Reading and Storytelling) method is one of the most influential. Combining principles from Total Physical Response (Asher, 2000) and the Natural Approach (Krashen & Terrell, 1983), TPRS integrates story-asking, storytelling, and performance to create a seamless bridge between input and output. This method mimics natural language acquisition and supports sustained student engagement.

In addition, Schank (2007) proposed "story-centered curriculum design," emphasizing real-world story scenarios as the backbone of learning tasks. This approach encourages students to learn by navigating situations they may face outside the classroom, shifting the focus from isolated knowledge points to meaningful experiences. Similarly, Deng (2022) noted that story-centered learning supports self-expression

and personal growth by connecting classroom activities to students' lives.

Altogether, these studies show that story-based teaching not only enriches language learning but also promotes motivation, engagement, and higher-order thinking, laying a strong foundation for the investigation of its relationship on creative thinking.

2.2. Research on Creative Thinking

Creative thinking has long been a focus of educational psychology. Scholars approach creativity from different perspectives, but many agree that it involves both generating novel ideas and applying them meaningfully. Sternberg & Grigorenko's (2004) Triarchic Theory of Intelligence positions creative ability alongside analytical and practical abilities, emphasizing its essential role in problem-solving. Guilford (1967) later defined creative thinking through concepts such as fluency, flexibility, and originality, highlighting the importance of divergent production and the transformation of existing ideas.

In the domain of language education, creative thinking supports learners' ability to make connections, interpret meaning, and express ideas in innovative ways. Previous research shows that teachers recognize creativity as a valuable part of second language learning and increasingly seek ways to cultivate students' thinking abilities (Alwadai, 2014; Gashan, 2015).

To assess creative thinking, researchers have developed a variety of tools. Divergent thinking tests, such as the Torrance Tests of Creative Thinking (TTCT), Alternative Uses Task (AUT), and the Wallach-Kogan Creativity Test, remain widely used due to their strong predictive value. PISA's 2021 Creative Thinking Test further highlights the international importance of creativity assessment.

Scales are also commonly used to evaluate creative dispositions. Instruments such as the Williams Creativity Scale and Kaufman Domains of Creativity Scale measure attributes like imagination, curiosity, and independence. The present study draws on the Williams framework to examine four specific dimensions of creative thinking: adventurousness, curiosity, imagination, and challenging spirit.

While many studies acknowledge that storytelling can enhance students' imagination and divergent thinking, few have explored the differentiated effects of specific teaching components, such as student interest, teacher attention, classroom atmosphere, and teaching strategies, on distinct dimensions of creative thinking. This gap makes it necessary to examine not only whether stories support creativity, but also how and through which associations they exert their influence.

2.3. Theoretical Basis

Story-based teaching and creative thinking development can be understood through several theoretical lenses. Two theories particularly relevant to this study are Situated Learning Theory and Multiple Intelligences Theory.

2.3.1. Situated Learning Theory

Situated Learning Theory, proposed by Lave and Wenger (1991), emphasizes that

learning is deeply tied to authentic social contexts. Knowledge is constructed through active participation, collaboration, and engagement in meaningful tasks. For young English learners, stories create immersive environments where language is experienced in realistic and emotionally resonant situations. When students role-play characters, predict events, or solve problems within story worlds, they practice using language in ways that mirror real communication. This theory also highlights social interaction as central to learning. Through group discussion and collaborative storytelling, students develop shared understanding while exploring different perspectives, a key contributor to creative thinking.

2.3.2. Multiple Intelligences Theory

The central premise is to challenge the conventional singular perspective of intelligence, positing that human intelligence comprises eight relatively independent and equally significant forms, such as linguistic intelligence, spatial intelligence, and interpersonal intelligence, thereby highlighting the diversity, contextuality, and developmental aspects of intelligence (Gardner, 1993). This theory elucidates the variations in students' intellectual strengths. If a monolithic teaching model is employed, students with limited linguistic intelligence but notable spatial and interpersonal intelligence may struggle to demonstrate their innovative potential. Conversely, the story-based teaching approach utilized in this study, encompassing activities like plot analysis, role-playing, and creative continuation, engages their cognitive processes. By integrating questionnaire surveys, interviews, and structural equation modeling, this approach systematically investigates the correlation between intelligence activation and the development of creative thinking (adventurousness, curiosity, imagination, challenging spirit). Furthermore, the concept of "respecting differences in intelligence" underpins the "hierarchical support" strategies proposed in subsequent research. For instance, activating spatial intelligence through drawing story scenes can enhance imagination, while leveraging interpersonal intelligence through group collaborative adaptation can address the expressive challenges faced by students with weaker foundations, ultimately contributing to the cultivation of creative thinking.

Informed by the above theories, this study adopts a conceptual framework that clarifies the direct relationships between instructional components and students' creative thinking development. Specifically, four core elements of story-based teaching, student interest, teacher attention, classroom atmosphere, and teaching strategies, are posited as direct predictors of the four dimensions of creative thinking, namely curiosity, imagination, adventurousness, and challenging spirit. This framework provides the theoretical grounding for the research design and guides the subsequent empirical analysis (**Figure 1**).

Based on existing theories of story-based pedagogy, learner engagement, and creative cognition, the present study proposes that four components of story-based English teaching—student interest, teacher attention, classroom atmosphere, and teaching strategies—exert direct positive effects on students' creative thinking. Accordingly, the following hypotheses were formulated:

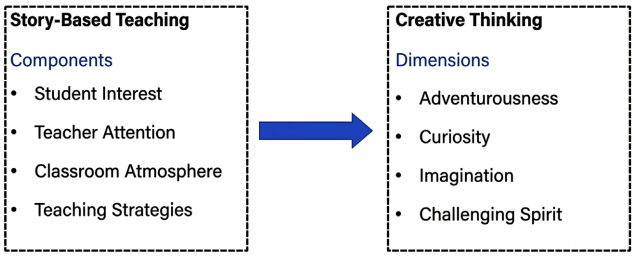

Figure 1. Conceptual framework.

H1: Student interest positively predicts primary students' creative thinking.

H2: Teacher attention positively predicts primary students' creative thinking.

H3: Classroom atmosphere positively predicts primary students' creative thinking.

H4: Teaching strategies positively predict primary students' creative thinking.

3. Method

This study employed a mixed-methods design combining quantitative and qualitative approaches to gain a comprehensive understanding of story-based English teaching and its relationship with creative thinking.

3.1. Participants

The study involved primary school students from Grades 4 to 6 and adopted a combination of online and offline data collection methods. The sample consisted of six intact classes from Grades 4 - 6 in one primary school. These classes were selected based on accessibility and their regular use of story-based English teaching practices. Data were collected through both online and paper-based questionnaires. To ensure consistency, identical items and response formats were used across both modes, and all responses were combined into a single dataset after data entry and verification. Invalid questionnaires were excluded based on the following criteria: 1) excessive missing responses, 2) uniform or patterned answering (e.g., selecting the same option for all items), and 3) completion times that were deemed unrealistically short. Online questionnaires were distributed through widely used communication platforms, while offline data were gathered from six classes in a public primary school (referred to as Z Primary School) in Jiangsu Province, China. A total of 317 questionnaires were distributed, and 271 valid responses were obtained, resulting in an effective response rate of 85.4%. The sample included both boys and girls across different grade levels, offering a reasonably diverse representation of the student population. Table 1 summarizes the demographic characteristics of the participants.

Table 1. Descriptive statistics of demographic variables.

Variable	Category	Frequency	Percentage (%)	M	SD
Gender	Male	148	54.6	1.45	0.499
	Female	123	45.4		

Continued

Grade	Grade 4	61	22.5	2.17	0.772
	Grade 5	102	37.6		
	Grade 6	108	39.9		

In addition to student participants, nine frontline English teachers were interviewed to provide qualitative insights into teaching practices, challenges, and needs. The teachers varied in teaching experience (from 4 to 21 years) and educational background (college and undergraduate degrees), ensuring a range of professional perspectives.

3.2. Questionnaire Survey

The questionnaire was compiled by referring to existing questions and designing new items based on the Williams Creativity Assessment Packet (Williams, 1979). It consists of three parts: the first part is Demographic Information, mainly investigating gender and grade; the second part is the Story-Based English Teaching Scale, including 4 dimensions (students' interest, teachers' attention level, classroom atmosphere, teaching strategies) with 12 items, coded as SI1 - SI3, TAL1 - TAL3, CA1 - CA3, TS1 - TS3 respectively; the third part is the Students' Creative Thinking Scale, including 4 dimensions (adventurousness, curiosity, imagination, challenging spirit) with 18 items, coded as RT1 - RT4, CU1 - CU4, IM1 - IM5, CC1 - CC5 respectively. The second and third parts adopt a 5-point Likert scale (1 = "strongly disagree," 5 = "strongly agree") for scoring.

In the process of scale design, strict questionnaire design principles and scientific requirements were followed, and language expression was refined from the perspective of respondents. After repeated revisions and approval by 5 experts, a small-scale pre-survey was conducted to ensure the content validity of the questionnaire. The pre-survey was carried out in Z Primary School, with 110 samples collected. After sorting and analysis, invalid questionnaires were eliminated, resulting in 98 valid data, with an effective sample recovery rate of 89.09%. After the pre-survey, item analysis, validity test, and reliability test were conducted on the questionnaire: item analysis was performed using the critical ratio method and homogeneity test, and the results showed that the critical value of each item was greater than 3, the total correlation coefficient of each item was greater than 0.4, and all items were retained; exploratory factor analysis was conducted using SPSS 19.0 to test validity. For the Story-Based English Teaching Scale, the Cronbach's α coefficient was 0.881, the KMO value was 0.857 (Bartlett's test of sphericity $p < 0.001$), and exploratory factor analysis extracted 2 common factors, explaining 58.69% of the total variance, with reliability and validity meeting research requirements. For the Students' Creative Thinking Scale, the Cronbach's α coefficient was 0.895, the KMO value was 0.895 (Bartlett's test of sphericity $p < 0.001$), and exploratory factor analysis extracted 3 common factors, explaining 52.12% of the total variance, meeting the standards of empirical research. These indices meet

the commonly accepted standards for educational research, confirming the reliability and validity of the instrument.

Although the exploratory factor analysis suggested a reduced factor structure, the four-dimension framework was retained based on strong theoretical support and prior validated studies. Additionally, confirmatory analysis indicated that the four-factor model demonstrated acceptable model fit and construct validity. Therefore, the theoretically grounded structure was preserved.

Quantitative data were analyzed using SPSS 26.0 and SmartPLS 3.0. The analysis followed a multi-step procedure to ensure reliability, validity, and robustness of the findings. First, descriptive statistics (means, standard deviations) were calculated to examine the overall levels and distributional characteristics of story-based teaching and creative thinking among the participants.

Second, reliability and validity analyses were conducted. Cronbach's α and composite reliability (CR) were used to assess internal consistency, while the Kaiser-Meyer-Olkin (KMO) statistic and Bartlett's test of sphericity were applied to confirm sampling adequacy and factorability. Convergent validity was evaluated using average variance extracted (AVE), and discriminant validity was assessed following the Fornell-Larcker criterion.

Third, Pearson correlation analysis was performed to explore preliminary relationships among the major variables and to determine whether the data supported further structural modeling. Given the exploratory nature of the study and the inclusion of multiple latent constructs with relatively small indicator sets, Partial Least Squares Structural Equation Modeling (PLS-SEM) was selected. PLS-SEM is suitable for prediction-oriented research, complex models, and studies with modest sample sizes. Using SmartPLS 3.0, the measurement model and structural model were tested sequentially. Model fit indices demonstrated acceptable global fit (SRMR = 0.071; d_G = 0.899; NFI = 0.851), supporting the adequacy of the proposed model. Finally, bootstrapping with 5000 resamples was conducted to evaluate the significance of path coefficients and to generate confidence intervals for hypothesis testing.

3.3. Interviews

To enrich the quantitative results, semi-structured interviews were conducted with nine English teachers from the participating school. The interview protocol comprised five guiding questions addressing teachers' instructional philosophies, classroom practices, challenges encountered during story-based instruction, the types of storytelling activities they implemented, and their suggestions for improvement. Each interview lasted approximately 15 - 20 minutes and was audio-recorded with participants' informed consent.

All interviews were transcribed verbatim and analyzed using MAXQDA 2018. An inductive thematic analysis approach was adopted to identify recurring patterns related to teachers' perceptions and experiences of story-based teaching. Initial open coding was followed by axial coding to refine categories and establish

connections among themes. To enhance analytic rigor, coding procedures were iteratively reviewed, and emerging themes were compared with quantitative findings to identify points of convergence or divergence.

4. Results

4.1. Reliability and Validity Test of the Measurement Instruments

The reliability and validity of all measurement constructs were assessed using SPSS 26.0 and SmartPLS 3.0. Cronbach's α ranged from 0.668 to 0.806 across the four dimensions of story-based teaching and the four dimensions of creative thinking, meeting the minimum acceptable threshold for exploratory educational research. Composite reliability (CR) values ranged from 0.80 to 0.877, indicating adequate internal consistency. All constructs achieved average variance extracted (AVE) values of 0.503 - 0.704, demonstrating satisfactory convergent validity.

4.2. Current Status of Story-Based English Teaching

Descriptive statistics indicated that students generally perceived story-based English teaching as being well implemented. The mean scores of the four core dimensions ranged from 3.86 to 4.24 on a five-point scale. Among these, teacher attention received the highest rating (M = 4.24, SD = 0.92), suggesting that students perceived teachers as frequently integrating and emphasizing story-related instructional components. In comparison, teaching strategies obtained the lowest score (M = 3.86, SD = 1.05), indicating that the perceived diversity and application of story-based teaching techniques were somewhat less frequent.

The standard deviations across the four dimensions (ranging from SD = 0.92 to SD = 1.05) reflect moderate variability in students' responses, suggesting that the perceived implementation of story-based instruction varied across different classes or grade levels. However, verifying the sources of this variation would require additional classroom-level or teacher-level data.

4.3. Developmental Characteristics of Students' Creative Thinking

Descriptive statistics showed that students' creative thinking exhibited differentiated patterns across the four measured dimensions. The mean values ranged from 3.71 to 4.08 on a five-point scale, indicating generally positive but uneven levels of development (Table 2).

Table 2. Descriptive statistics of students' creative thinking development.

Dimension of Creative Thinking	Number of Items	M	SD	Ranking of Developmental Level
Challenging Spirit	5	4.08	0.95	1 (Strongest)
Adventurousness	4	3.98	1.02	2
Curiosity	4	3.86	1.07	3
Imagination	5	3.71	1.13	4 (Weakest)

Among the dimensions, challenging spirit recorded the highest score (M = 4.08, SD = 0.95), followed by adventurousness (M = 3.98, SD = 1.02). Curiosity showed a moderate level (M = 3.86, SD = 1.07), while imagination had the lowest score (M = 3.71, SD = 1.13).

The comparatively lower mean and relatively larger standard deviation for imagination suggest greater variability in students' perceived imaginative engagement. However, identifying the specific instructional or contextual factors contributing to this variation would require additional qualitative or classroom-level evidence.

4.4. Structural Equation Modeling of Story-Based Teaching on Creative Thinking

Smart PLS 3.0 was used to create the structural equation model. First, the overall fit of the model was evaluated. The results showed that the Standardized Root Mean Square Residual (SRMR = 0.071 < 0.08), d_G = 0.899 < 0.95, and Normed Fit Index (NFI = 0.851) (Henseler et al., 2016), indicating that the model constructed in this study has a good fit and can be used for path relationship analysis. Partial least squares (PLS) and Bootstrapping were used for data processing. In the model presentation, the outer model shows factor loadings and *p*-values, the inner model shows path coefficients and t-values, and the factor dimensions show R^2, as shown in Figure 2.

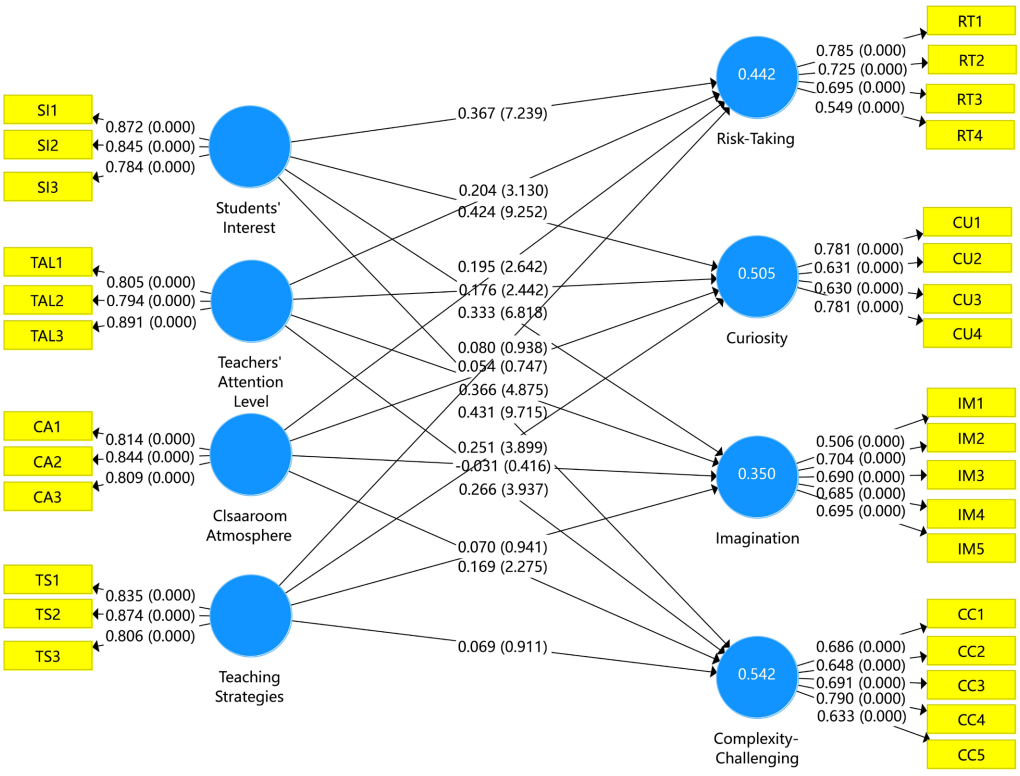

Figure 2. The structural equation model. Note: Definitions of variables in the figure are as follows: SI = Students' Interest, TAL = Teachers' Attention Level, CA = Classroom Atmosphere, TS = Teaching Strategies, RT = Risk-Taking (Adventurousness), CU = Curiosity, IM = Imagination, CC = Challenging Spirit.

Bootstrapping with 5000 resamples was conducted to assess the significance of the structural paths (Table 3). The following path coefficients represent statistically predicted associations based on the structural model, rather than causal inferences. The analysis showed that students' interest exerted positive and statistically significant effects on all four creative thinking dimensions, with the strongest effects observed for challenging spirit (β = 0.431, $p < 0.001$) and curiosity (β = 0.424, $p < 0.001$). Teacher attention also demonstrated significant positive effects across dimensions, with its strongest influence on imagination (β = 0.366, $p < 0.001$).

Table 3. Direct effects of story teaching current situation on creative thinking cultivation.

Path	β	M	SD	T	*p*-value
Classroom Atmosphere → Challenging Spirit	0.169	0.175	0.076	2.232	0.026
Classroom Atmosphere → Imagination	−0.031	−0.031	0.078	0.395	0.693
Classroom Atmosphere → Curiosity	0.054	0.054	0.072	0.752	0.452
Classroom Atmosphere → Adventurousness	0.195	0.2	0.076	2.582	0.010
Teachers' Attention Level → Challenging Spirit	0.266	0.263	0.065	4.09	0.000
Teachers' Attention Level → Imagination	0.366	0.366	0.071	5.131	0.000
Teachers' Attention Level → Curiosity	0.176	0.18	0.068	2.594	0.010
Teachers' Attention Level → Adventurousness	0.204	0.207	0.065	3.119	0.002
Teaching Strategies → Challenging Spirit	0.069	0.072	0.078	0.885	0.376
Teaching Strategies → Imagination	0.07	0.075	0.076	0.918	0.359
Teaching Strategies → Curiosity	0.251	0.25	0.064	3.896	0.000
Teaching Strategies → Adventurousness	0.08	0.079	0.089	0.901	0.368
Students' Interest → Challenging Spirit	0.431	0.43	0.043	9.938	0.000
Students' Interest → Imagination	0.333	0.337	0.051	6.506	0.000
Students' Interest → Curiosity	0.424	0.427	0.047	8.942	0.000
Students' Interest → Adventurousness	0.367	0.365	0.054	6.841	0.000

In contrast, classroom atmosphere showed significant effects only on adventurousness (β = 0.195, $p = 0.010$) and challenging spirit (β = 0.169, $p = 0.026$), whereas its effects on curiosity and imagination were not statistically significant. Teaching strategies significantly predicted curiosity (β = 0.251, $p < 0.001$) but did not exhibit significant effects on the other three dimensions.

The structural model results provided empirical support for the overall theoretical proposition that story-based English teaching contributes to the development of primary students' creative thinking. Specifically, H1 was fully supported: student interest showed robust and significant positive effects on all four dimen-

sions of creative thinking, curiosity, imagination, adventurousness, and challenging spirit (β = 0.333 - 0.431, $p < 0.001$). This indicates that students' affective engagement with story-based activities constitutes a key driving force for creative thinking development.

H2 received support. Teacher attention exerted significant positive effects on imagination (β = 0.366, $p < 0.001$), curiosity (β = 0.176, $p = 0.010$), challenging spirit (β = 0.266, $p < 0.001$), and adventurousness (β = 0.204, $p < 0.001$), suggesting that teachers' instructional focus and support are positively associated with multiple dimensions of students' creative performance.

H3 also received partial support. Classroom atmosphere significantly predicted adventurousness (β = 0.195, $p = 0.010$) and challenging spirit (β = 0.169, $p = 0.026$), but had no significant effect on curiosity or imagination. These results imply that a supportive and participatory classroom climate mainly enhances students' willingness to take risks and persist in challenges, rather than stimulating cognitive aspects of creativity.

Finally, H4 was partially supported. Teaching strategies significantly enhanced curiosity (β = 0.251, $p < 0.001$) but did not significantly predict imagination, adventurousness, or challenging spirit. This pattern indicates that current story-based instructional techniques in the sampled school may engage students' exploratory interest but are not yet sufficient to generate deeper creative outcomes.

4.5. Analysis of Teacher Interview Results

To complement the quantitative findings, semi-structured interviews with nine English teachers were analyzed to identify recurrent themes related to their perceptions and practices of story-based English teaching. The thematic analysis revealed four major areas: teaching philosophy, instructional practice, classroom challenges, and improvement suggestions (Table 4).

Table 4. Core themes from teacher interviews and correspondence with quantitative findings.

Interview Dimension	Core Views Identified	Frequency	Corresponding Points with Quantitative Results
Teaching Philosophy	1) Creative thinking enhances students' ability to apply language; 2) Aligns with the "thinking quality" emphasis in the new curriculum standards	9, 7	High Mean score in teachers' attention level dimension (M = 4.24)
Instructional Practice	1) Story adaptation and role-playing are frequently used; 2) Some teachers incorporate mind maps to guide higher-order thinking	8, 5	Certain foundation in teaching strategies dimension (M = 3.86)
Classroom Challenges	1) Students with weaker foundations exhibit expressive difficulties; 2) Insufficient high-quality English story materials; 3) Parental emphasis on scores over creativity	7, 6, 8	Lowest score in imagination dimension (M = 3.71)
Improvement Suggestions	1) Provide leveled story materials; 2) Establish shared teacher resource pools; 3) Encourage parental involvement in creative activities	8, 7, 5	Students' interest is the core driver, requiring multi-subject collaboration

First, regarding teaching philosophy, teachers commonly emphasized the value of story-based instruction for fostering student engagement and supporting the development of higher-order thinking. Several teachers noted that storytelling aligns with current curriculum requirements that highlight thinking quality and holistic language use. These perceptions are consistent with students' high ratings of teacher attention in the quantitative results.

Second, in terms of instructional practice, teachers reported frequent use of activities such as story adaptation, role-play, and guided discussion. Some teachers also mentioned the use of visual tools, such as mind maps, to support comprehension and encourage students to explore multiple interpretations of story content. These practices correspond with students' generally positive evaluations of story-based teaching.

Third, teachers described a number of classroom challenges. These included students' limited ability to express creative ideas in English, variations in linguistic proficiency across classes, limited availability of high-quality English story materials, and parental emphasis on test-oriented outcomes. These reported challenges may relate to the comparatively lower student scores for imagination and teaching strategies observed in the quantitative analysis, although further classroom-level data would be needed to confirm these relationships.

Finally, teachers offered several suggestions for improvement, including the development of leveled story materials, increased access to high-quality teaching resources, professional collaboration among teachers, and greater home–school communication to promote shared understanding of the value of creativity development. These recommendations align with the broader implications derived from the structural equation modeling results, particularly the importance of student interest, differentiated scaffolding, and teacher support.

5. Discussion

5.1. RQ1: Characteristics of Students' Creative-Thinking Development in Story-Based English Teaching

Descriptive and inferential analyses indicate differentiated development across creative-thinking dimensions: challenging spirit and adventurousness scored higher (M = 4.08, SD = 0.95; M = 3.98, SD = 1.02), while curiosity and especially imagination were comparatively lower (M = 3.86, SD = 1.07; M = 3.71, SD = 1.13). This multidimensional pattern reinforces the conceptualization of creativity as a set of related but distinct capacities that develop unevenly in educational contexts (Beghetto & van Geffen, 2024). It also accords with large-scale assessments and recent syntheses showing that fostering higher-order creative skills (e.g., imaginative transformation, original product generation) often requires intentional instructional design and extended opportunities for open-ended practice (Angwaomaodoko, 2025; Rigopouli et al., 2025).

Two implications follow. First, students' relatively high scores for persistence and willingness to take intellectual risks suggest that story-based activities reliably

engage affective and motivational systems, prerequisites for creative endeavor identified in contemporary creativity research. Second, the comparatively lower and more variable scores for imagination point to a need for more explicit tasks that require generative and transformational work (e.g., alternative endings, character redesign, multimodal story production), interventions supported in recent empirical work on narrative and immersive pedagogy.

5.2. RQ2: How Core Components of Story-Based Instruction Relate to Creative-Thinking Dimensions

Correlation and PLS-SEM analyses reveal differentiated associational patterns among story-based components: first, students' interest was the most consistent, strongest predictor across all creative dimensions (largest β values), underscoring intrinsic motivation's strong association with the creative engagement (Amabile, 1983; Hennessey & Amabile, 1988). This finding is congruent with research emphasizing affective engagement as a facilitator of idea generation and risk-taking in classroom tasks (Suen & Hung, 2025).

Second, Teacher attention (scaffolding) was strongly associated with imagination and had moderate effects elsewhere. This aligns with contemporary scholarship on teacher mediation and scaffolding in narrative contexts: when teachers purposefully scaffold meaning-making, students are more able to engage in representational transformation and creative recombination of story elements. Recent practitioner-focused reviews and empirical studies emphasize scaffolding as a key factor associated with narrative engagement into higher-order creative outcomes (Nilsson, 2023).

Third, Classroom atmosphere and teaching strategies displayed selective relationships (e.g., atmosphere → adventurousness; strategies → curiosity). This pattern accords with systematic reviews showing that environmental supports and instructional techniques are necessary but not sufficient—their relationship depends on alignment with tasks that explicitly require divergent thinking and imaginative transformation (De Carlo & Limone, 2025). Recent systematic reviews of digital and story-based pedagogies highlight that modality and task design matter greatly for the kinds of creativity that students demonstrate (Ginting et al., 2024; Munajah et al., 2023).

5.3. RQ3: How to Improve Story-Based Teaching to Better Support Students' Creative Thinking

Quantitative patterns and teacher interviews converge on three interrelated improvement domains: task design, teacher support, and systemic resources.

First, design tasks that move beyond comprehension and retelling toward generative production (e.g., alternative endings, multimodal storyboards, role-reversal tasks). Empirical studies of story-driven learning and immersive narrative interventions demonstrate that such tasks more reliably elicit imagination and originality (Brunetti et al., 2024).

Second, provide training in scaffolding techniques for narrative mediation (question prompts for divergent thinking, modeling imaginative strategies, formative feedback focused on novelty and elaboration). Research on scaffolding highlights teacher mediation as a decisive factor in transforming engagement into creative competence (Nilsson, 2023).

Third, curate leveled story banks, integrate digital storytelling tools where feasible, and align assessment practices to recognize creative processes (e.g., process rubrics, portfolios). Recent reviews of digital storytelling and story-based learning emphasize that resource quality and curricular alignment are critical for scalable relationship (Chang et al., 2023; Munajah et al., 2023).

Finally, the interviews pointed to contextual constraints, uneven proficiency and exam pressures that mirror findings from regional studies and cross-cultural analyses. Addressing these constraints requires policy-level interventions, such as curricular guidance, teacher continuous professional development, and assessment reform to ensure that creativity-oriented teaching is both feasible and rewarded.

6. Implications for Practice

Based on the integrated quantitative and qualitative findings, several practical implications can be drawn for enhancing the effectiveness of story-based English teaching in primary schools.

First, implications for students: instruction should be differentiated to accommodate learners varied linguistic and creative-development levels. Providing leveled story scaffolds, such as simplified templates, semi-structured narrative frames, and model texts, can support students with limited expressive ability while still enabling higher-achieving learners to engage in open-ended creative tasks. Regular activities such as Story Innovation Weeks or creative showcases may further enhance students' intrinsic motivation and promote a classroom culture oriented toward imaginative engagement.

Second, implications for teachers: Teachers play a central mediating role in transforming narrative engagement into creative thinking. Accordingly, teachers should employ explicit scaffolding strategies, including imaginative prompts, divergent-thinking questions, multimodal aids, and formative feedback, to help students extend story elements in original ways. Professional development activities, such as inter-school collaboration, lesson study groups, and training workshops, can strengthen teachers' capacity to implement creativity-oriented storytelling pedagogy.

Third, implications for schools: Schools should establish supportive institutional conditions to facilitate creativity-focused story-based instruction. Developing a regularly updated English Story Resource Library, introducing curated high-quality story materials, and providing access to digital storytelling tools can address resource shortages. Incorporating creativity-oriented assessment components into classroom evaluation systems may further signal the value

placed on imagination and innovation. Strengthening home–school communication can also help cultivate parental recognition of creativity as an important educational outcome.

7. Conclusion

This study investigated the implementation of story-based English teaching in a primary school and examined its associate with students' creative thinking. The findings show that story-based instruction is generally well received by students and teachers, with strong interest and supportive classroom environments, although teaching strategies require further refinement. Students' creative thinking exhibited clear dimensional differences, with challenging spirit emerging as the strongest dimension and imagination as the weakest. Structural equation modeling further demonstrated that the components of story-based instruction show differentiated associations on creative thinking, with student interest and teacher attention emerging as the most strongly associated factors.

This study makes three key contributions to the literature on story-based pedagogy and creative thinking in primary EFL education. First, it provides one of the few empirical examinations that simultaneously integrates PLS-SEM modeling and qualitative interview evidence to reveal the differentiated associational patterns of story-based teaching components on multiple dimensions of creative thinking. Second, by identifying imagination as the weakest dimension of students' creative development and linking this finding to gaps in instructional design, the study enhances theoretical understanding of how narrative tasks translate into higher-order cognitive outcomes. Third, the study contributes a contextually grounded account of the challenges faced by teachers in implementing creativity-oriented storytelling pedagogy in exam-driven educational environments, thereby offering insights applicable to similar EFL contexts internationally.

Despite its contributions, the study is limited by its single-site sample, cross-sectional design, and reliance on self-report measures. Future research could expand the sample across diverse school settings, employ longitudinal designs to explore developmental trends, and incorporate classroom observations or performance-based assessments to capture the processes through which story-based activities stimulate imagination and other creative-thinking dimensions. It should be noted that students were nested within classes and teachers; however, this study did not explicitly model potential clustering effects. Future research may consider using multilevel modeling to account for classroom-level influences.

Taken together, the findings underscore the potential of story-based pedagogy to support holistic creative-thinking development in primary English education while also pointing to areas where instructional approaches and research methodologies can be further advanced.

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Ethical Compliance

All procedures involving human subjects were conducted in accordance with the ethical standards of the institution's research ethics committee and the 1964 Declaration of Helsinki and its subsequent revisions. This study has been approved by the Ethics Committee of J University. Written informed consent was obtained from the parents or legal guardians of all student participants, school administrators, and participating teachers. Participation was entirely voluntary, and all respondents were informed of their right to withdraw from the study at any time. All data were anonymized before analysis to ensure participant privacy.

Data Availability Statement

The datasets generated and analyzed during the current study, including anonymized quantitative data, interview transcripts, and coding materials, are available from the corresponding author upon reasonable request.

Conflicts of Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this manuscript.

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