

Blended learning with digital story telling model of students in English courses of Chinese primary education: Need assessment analysis

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Abstract: The current study aimed 1) to assess the needs of students in English courses at primary schools in China, focusing on blended learning, digital storytelling, English communication skills, and self-efficacy; 2) to develop blended learning with a digital storytelling model. The researcher employed a stratified random sampling method to select four key public primary schools from ten key public primary schools in Tongren City, China. Furthermore, English teachers from those four selected primary schools were invited to assist in the process of distributing the questionnaires, with 100 students sampled from each school, totaling 400 participants. Descriptive statistical methods were used to analyze the collected data, examining the mean scores across 12 items. Results indicated that the mean values ranged from 3.81 to 4.63. Among these, seven items had mean scores exceeding 4.21, reflecting a high need for elements such as additional online English learning materials, English movies and videos, enhanced speaking skills, and greater confidence in learning English. The remaining five items had mean scores above 3.41, indicating a moderate level of need. Moreover, the blended learning with the digital storytelling model was composed of ten steps, including online and offline activities.

Keywords: *Blended learning, Digital storytelling learning, English communication skills, Primary school, Self-efficacy, Student needs.*

1. Introduction

In the context of globalization trends, China continues to assert itself as a global leader in trade, technology, and research, proficiency in English is increasingly seen as essential for students to succeed in education and future careers [1]. English, as the foreign language, is essentially a tool for communication, thereby, communication skills are crucial to English learning. Primary school is the best period for language learning due to Broca's area, the brain region responsible for language, is most active during childhood, allow students to effectively master communication skills in English [2]. In the field of English language learning, a need assessment helps educators identify the gaps in current English language teaching (ELT) practices and tailor curriculum design to better meet the evolving needs of students [3]. However, under the constraints of exam-oriented education in China educational system, many Chinese teachers neglect students' needs, blindly emphasizing on learning achievement, particularly in primary school, where the students are not yet mature, and being considered as the one who don't their own needs in learning process. Furthermore, the rapid of digitalization is changing the learning environment of primary education, the technology-enhanced learning methods such as digital storytelling and blended learning have paly an importance role in English education [4]. Thereby, the aim of this study aimed to conduct a student need assessment survey toward English courses to evaluate how students respond to and interact with digital storytelling and blended learning, educators can

better understand how technology can enhance language acquisition and address the unique needs of primary school learners.

2. Literature Review

2.1. English Communication Skills

English communication skills are essential for primary school students as they form the foundation for effective learning and future academic success. These skills are typically categorized into speaking, listening, and writing, each playing a distinct yet interconnected role in language acquisition. Speaking skills, for instance, are vital for students to express their ideas clearly and engage in conversations with others. According to Ibna Seraj, et al. [5] young learners benefit from a focus on pronunciation, vocabulary, and fluency, which are integral aspects of effective speaking. However, primary school students often struggle with speaking due to lack of confidence, fear of making mistakes, and limited vocabulary [4]. Teachers can support the development of speaking skills through activities such as role plays, group discussions, and language games, which help students practice communication in an enjoyable, low-pressure environment [6].

Listening skills are equally important in primary education as they allow students to comprehend spoken language, follow instructions, and engage in classroom interactions. According to Alzamil [7] listening is crucial not only for understanding language but also for responding appropriately in social and academic contexts. Primary school students often find listening challenging due to issues such as limited vocabulary, background noise, or the speed at which native speakers talk. To improve listening, it is important for teachers to use varied listening materials, including songs, stories, and audio clips, to expose students to different accents and contexts [8]. Writing, the third component of communication skills, requires students to organize their thoughts clearly and convey information through written words. Writing skills are weak in primary students because of limited vocabulary and difficulty with grammar and sentence structure [9]. Providing structured writing exercises, such as journaling and storytelling, along with clear writing models, can help students build confidence in their writing abilities. In conclusion, these three components: speaking, listening, and writing are interdependent, and fostering skills in all areas allows for a well-rounded development of students' English communication abilities [10].

2.2. Self-Efficacy

Self-efficacy, the belief in one's ability to succeed, plays a crucial role in primary school students' English learning experiences. It affects their motivation, persistence, and overall success in acquiring the language. Gultom and Oktaviani [11] argues that students with high self-efficacy in English are more likely to engage actively, persist through difficulties, and take risks in speaking or writing. Conversely, those with low self-efficacy may avoid English tasks and feel anxious or inadequate, which can hinder their progress [12]. For primary school students, building self-efficacy is especially important as it shapes their attitude toward English learning and sets the foundation for future academic success. Factors influencing self-efficacy include mastery experiences, where success in language tasks boosts confidence; vicarious experiences, where observing peers succeed enhances belief in one's abilities; verbal persuasion, through positive feedback from teachers and peers; and physiological states, where emotional responses, like anxiety, can affect confidence.

To enhance self-efficacy, teachers can provide mastery experiences by offering achievable tasks and creating a supportive classroom environment that encourages risk-taking without fear of making mistakes. Strategies like setting goals, fostering peer collaboration, and using technology for engaging language practice can further boost students' self-belief in their English abilities. Additionally, parental support and involvement are essential in reinforcing self-efficacy, as parents play a key role in encouraging their children and supporting their learning at home [13]. While challenges such as language barriers and cultural differences may impact self-efficacy, educators can address these by

creating inclusive and interactive learning environments where students feel valued and motivated to improve their English skills [14].

2.3. Blended Learning

Blended learning, a method that combines traditional face-to-face classroom instruction with online learning activities, has gained increasing attention as an effective approach for enhancing English language learning in primary schools [15]. This approach is particularly advantageous in fostering a more personalized learning experience, as it allows students to engage with digital content at their own pace while still receiving the guidance and support of teachers in the classroom [16]. According to Andriyani, et al. [17] blended learning creates a flexible and dynamic learning environment that can cater to various learning styles, thereby encouraging active engagement and self-directed learning. In the context of English language acquisition, this method enables students to access a wide range of resources, such as interactive games, video lessons, and online exercises, which can reinforce language skills like vocabulary, grammar, listening, and reading comprehension [18].

In primary school settings, the integration of blended learning can significantly enhance students' motivation and interest in learning English. The combination of digital tools and traditional classroom activities supports differentiated instruction, allowing students to learn at their own pace and focus on areas where they need more practice. Research by Jerry and Yunus [19] highlights that blended learning provides a unique opportunity for students to engage in collaborative learning experiences both online and offline, fostering communication and critical thinking skills. For instance, students can participate in online discussions, watch videos in English, or complete quizzes on language structures before coming to class to discuss and practice what they've learned. This blended approach supports the development of both receptive skills (listening and reading) and productive skills (speaking and writing), essential components of English language proficiency. Moreover, when teachers effectively combine online tools with in-person activities, they can help create a balanced learning environment that promotes student autonomy while also ensuring teacher involvement, which is crucial for primary students' academic development [20]. Thus, blended learning holds considerable promise for improving English language acquisition in primary schools, providing a flexible and engaging learning experience that aligns with the needs and interests of primary students.

2.4. Digital Storytelling

Digital storytelling, which integrates multimedia elements like images, audio, video, and text, has become a powerful tool in enhancing English language learning, particularly for primary school students [21]. By combining traditional storytelling techniques with digital media, this approach provides a more engaging and interactive method of learning, appealing to various learning styles and boosting students' creativity. According to Yang, et al. [22] digital storytelling allows students to not only develop their language skills but also to engage with technology, making the learning experience more relevant and motivating. This method can be particularly beneficial in developing narrative skills, vocabulary, listening, and speaking, as students create and share their own digital stories. Moreover, students are able to practice their writing and speaking skills by composing stories, recording their narrations, and using visuals to complement their ideas [23]. In the context of English language acquisition, the use of digital tools encourages children to use English creatively while also fostering their technological literacy.

One of the significant advantages of digital storytelling in English learning for primary students is its potential to improve language skills through both production and consumption of content. By creating digital stories, students practice essential language components such as sentence structure, grammar, and pronunciation in an authentic context [24]. Furthermore, storytelling in a digital format provides opportunities for collaborative learning, where students can work together on creating multimedia projects. According to Parsazadeh, et al. [25] the collaborative aspect of digital storytelling helps to enhance communication skills and promote teamwork, as students interact with each other to

discuss and organize ideas. Additionally, digital storytelling supports critical thinking and problem-solving skills as students are required to plan, edit, and revise their stories, making decisions about how to best convey their narrative and language learning. As noted by Chubko, et al. [26] when students engage in the process of digital storytelling, they develop a deeper understanding of language structure and meaning, as well as increased motivation and confidence in using English language.

Therefore in this study, we utilized the benefits of digital story-telling method in blended learning. The blended learning technology was combined with a digital story-telling approach, and the method model included pre-analysis, blended learning technology, learning activity design, and evaluation. The digital story development process comprised of ten steps [27]. The blended learning technology with digital story-telling approach established here included five components: pre-analysis, blended learning technology, digital story creation, digital story-telling, and evaluation. Figure 1 depicts blended learning with a digital storytelling model.

3. Research Methods

A needs assessment survey was conducted among primary school students in Tongren city, China, to identify their specific learning needs for English courses. The study targeted grade 4-6 students, aged 10-12, considering their reading literacy levels. The researcher used stratified random sampling method to select four primary schools from 10 key public primary schools in Tongren city: Tongren No.2 Primary School, Tongren No.3 Primary School, Tongren Yiqun Primary School, and Tongren No.6 Primary School. English teachers from these schools assisted in the data collection process, with 100 students taken from each school, resulting in a total of 400 respondents. Female respondents slightly outnumbered males, comprising 51.25% of the total sample. Grade 6 students represented the largest group at 58.75%, while grade 4 students accounted for only 8.75%. Respondents were evenly distributed across the four schools, with each contributing 25% of the sample. All participants reported that they were currently learning English in their school. Further details about the respondents are presented in Table 1.

Table 1.
Demographic information of respondents (n=400).

Demographic factors	Items	Frequency	Percentage (%)
Gender	Male	195	48.75%
	Female	205	51.25%
Grade	Grade 4	53	8.75%
	Grade 5	112	28.00%
	Grade 6	235	58.75%
Regions	Tongren No.2 primary school	100	25.00%
	Tongren No.3 primary school	100	25.00%
	Tongren yiqun primary school	100	25.00%
	Tongren No.6 primary school	100	25.00%
Are current learning English?	Yes	400	100.00%
	No	0	0.00%

A needs assessment questionnaire was designed to identify students' learning needs in English courses, utilizing a five-point Likert scale ranging from lowest Alamri, et al. [16] to highest Need [28]. The questionnaire covered four dimensions: blended learning, digital storytelling learning, English communication skills, and self-efficacy, with each dimension comprising three items, for a total of 12 items. To evaluate the reliability of the questionnaire, a Cronbach's alpha test was conducted, yielding an alpha value of 0.85, which exceeds the acceptable threshold of 0.7. According to Brown [29] this suggests that the questionnaire demonstrates good reliability.

Descriptive statistics were applied to analyze the data, focusing on measuring mean and standard deviation (SD). The mean scores were interpreted based on the outlined in Table 2 to determine the level of need for each item, while the SD values were examined to assess data variability.

Table 2.

The average score of need level.

Level	Mean Ranges
Lowest	1.00-1.80
Low	1.81-2.60
Moderate	2.61-3.40
High	3.41-4.20
Highest	4.21-5.00

4. Results

4.1. Result of Students' Need

The following analysis reveals teachers' needs and students' learning needs: blended learning, digital storytelling learning, English communication skills, and self-efficacy. After the students' need analysis, the results are shown below in Table 3. Among them, all the mean values of key dimensions are more than 3.5, which shows they have high levels in these indicators.

Table 3.

Students' need result on key dimensions.

Dimensions	Items / To What Extent Do You Need...	Means	SD	Level
1. Blended learning	1.1 To learn online in the learning process of English	3.81	0.63	High
	1.2 To find more English learning materials online in the learning process of English	4.25	0.51	Highest
	1.3 Teacher facilitate students in learning onsite	4.05	0.54	High
	Total	4.04	0.52	High
2. Digital storytelling learning	2.1 To have interesting stories in the learning process of English	3.90	0.60	High
	2.2 To have some English movies and videos in the learning process	4.23	0.53	Highest
	2.3 To have some animation and cartoon characters to help me understand more	3.85	0.64	High
	Total	3.99	0.59	High
3. English communication skills	3.1 To improve my English speaking	4.43	0.51	Highest
	3.2 To improve my English listening	4.56	0.50	Highest
	3.3 To improve my English writing	4.63	0.48	Highest
	Total	4.54	0.50	Highest
4. Self-efficacy	3.1 To improve my confidence in learning English	4.22	0.54	Highest
	3.2 To be more courageous seeking help from teachers and classmates in learning process	4.30	0.61	Highest
	3.3 To believe in myself more in achieving a better achievement in English	4.13	0.62	High
	Total	4.22	0.59	Highest

According to Table 3, respondents showed a strong need for Blended learning. The highest need was "to find more English learning materials online in learning process of English" with the mean score of 4.25. Furthermore, the overall dimension of blended learning was also perceived as a high need, with a mean score of 4.04.

Under the digital storytelling learning dimension, three items were evaluated. The mean scores for these items varied between 3.85 and 4.23. The respondents expressed a need for more engaging stories and animated cartoon characters in the English learning process, with mean scores of 3.90 and 3.85, respectively. Additionally, there was a strong need for more English movies and videos, reflected by the highest mean score of 4.23. Overall, the digital storytelling learning dimension was identified as a need, with an average mean score of 3.99.

The English communication skills dimension included three items. The mean scores for these items ranged from 4.43 to 4.63. The respondents demonstrated a strong need to enhance their English-speaking, listening, and writing skills, with mean scores of 4.43, 4.56, and 4.54, respectively. Overall, the

English communication skills dimension was also identified as the highest need, with an average mean score of 4.54.

The self-efficacy dimension included three items. The mean scores for these items ranged from 4.13 to 4.30. The respondents expressed a need to build greater self-belief in achieving better performance in English, with a mean score of 4.13. Additionally, respondents strongly emphasized the need to boost their confidence and seek more courage from teachers and classmates during the English learning process. Overall, the self-efficacy dimension was identified as the highest need, with an average mean score of 4.22.

In summary, this student learning assessment survey included four dimensions: blended learning, digital storytelling learning, English communication skills, and self-efficacy. The mean scores for the four dimensions ranged from 3.99 to 4.54. According to the average score for assessing need levels, respondents indicated the highest need for improvement in English communication skills and self-efficacy with mean scores of 4.54 and 4.22. In addition, the means of the blended learning and digital storytelling learning were 4.04 and 3.99, both achieving a high need level.

4.2. Result of Teachers' Need

The process involved three teachers being interviewed on separate times, adhering to a structured interview protocol as shown in Table 4. Those three teachers were selected using purposive sampling from the English course, and they all have more than 5 years of teaching experience in English courses. The interview outline included four dimensions of questions: (1) the selection of existing teaching methods, (2) the design of teaching content, (3) the student's attention towards teaching content, (4) the digital story-telling content. After the interview, the researcher summarized and extracted the interview records of three teachers.

Results of teacher needs interview were shown as followed in Table 4. After the interview we did the thematic analysis to get the key themes which are *Enhancing Digital Storytelling, Structured Approach to Digital Storytelling, Enhancing Exam Preparation through Storytelling and Enhancing Student Confidence and Communication through Storytelling Activities*. It showed the importance and effect of the digital storytelling method.

Table 4.
Results for Teacher Needs Interview.

Questions	Themes	Sub-themes
1. For teachers who are trying blended learning technology + Digital storytelling method for the first time, what should teacher do to better integrate teaching method and improve students' learning?	- Enhancing Digital Storytelling Education	<ul style="list-style-type: none"> - Progressive Skill Development: Starting with basic topics and gradually moving to more complex techniques in digital storytelling. - Teacher Training: Emphasizing the need for teachers to receive training to improve their skills in digital storytelling. - Personalized Learning: Addressing the individual needs and interests of students through flexible educational plans. - Reflective Teaching: Using a teaching approach that involves adjusting methods based on feedback. - Feedback Collection: Focusing on observing students' reactions and actively collecting feedback to improve teaching strategies. - Interactive Engagement: Incorporating interactive activities to increase student engagement in digital storytelling.
2. How can you help students to adapt the learning method in the model of blended learning technology + Digital storytelling?	- Structured Approach to Digital Storytelling Education	<ul style="list-style-type: none"> - Phased Learning: Emphasizing a step-by-step approach starting with basic skills and moving to more advanced topics. - Gamification: Utilizing game-like elements to motivate and engage students. - Storytelling Process Demonstration: Showing students the entire process of digital storytelling.
3. In the model that combines blended learning technology + Digital storytelling, what should teacher do to combine with in order to help student pass the exam?	Enhancing Exam Preparation through Storytelling	<ul style="list-style-type: none"> - Curriculum Alignment: The paragraph emphasizes digital storytelling tasks with the exam syllabus to reinforce key concepts. - Real-World Relevance: It suggests using case studies and scenario-based storytelling to practice solving real-world problems that are pertinent to exam scenarios. - Concept Simplification: The paragraph highlights the use of storytelling as a tool to simplify complex exam topics, making them more comprehensible and memorable for students.
4. What do you think the best way to improve students' communication skills and self-efficacy is?	- Enhancing Student Confidence and Communication through Storytelling Activities	<ul style="list-style-type: none"> - Group Projects and Role-Playing: Encouraging collaborative work and interactive learning through group projects and role-playing activities to improve students' confidence and communication skills. - Personal Digital Story Creation: Inspiring students to craft and present their own digital stories, with the aim of building their self-assurance and technical abilities through constructive feedback. - Peer Feedback and Cross-Class Events: Organizing events that involve students from different classes presenting their stories and offering feedback to one another, which serves to enhance both communication skills and self-confidence.

The results of the interview revolved around the theme of improving educational practices through storytelling techniques. The interviewees began with discussing how to introduce digital storytelling in an educational setting, starting with simple tasks and gradually progressing to more complex ones. The researcher also touched upon the importance of teacher training and addressing students' personalized needs with flexible plans. Reflective teaching and interactive activities were highlighted as key elements to boost engagement. Further, the researcher and the teachers in this interview explored the idea of digital storytelling tasks with exam syllabuses, using case studies and scenario-based storytelling to prepare students for real-world problem-solving relevant to exams. Simplifying complex exam topics through storytelling was also discussed to make them more comprehensible and memorable. Organizing cross-class storytelling events for peer feedback was also mentioned as a way to boost these skills.

Based on the blended learning with digital story-telling method combined with the suggestions made by the experts, the digital story-telling teaching process is accordingly designed to illustrate every step-in detail which is shown in Table 5. This process will guide students to complete topic

selection, script writing, multimedia design and multiple rounds of feedback and revision in the form of group collaboration through online and offline blended learning mode, and finally cultivates their interdisciplinary practical ability and digital literacy. The specific implementation process is as follows:

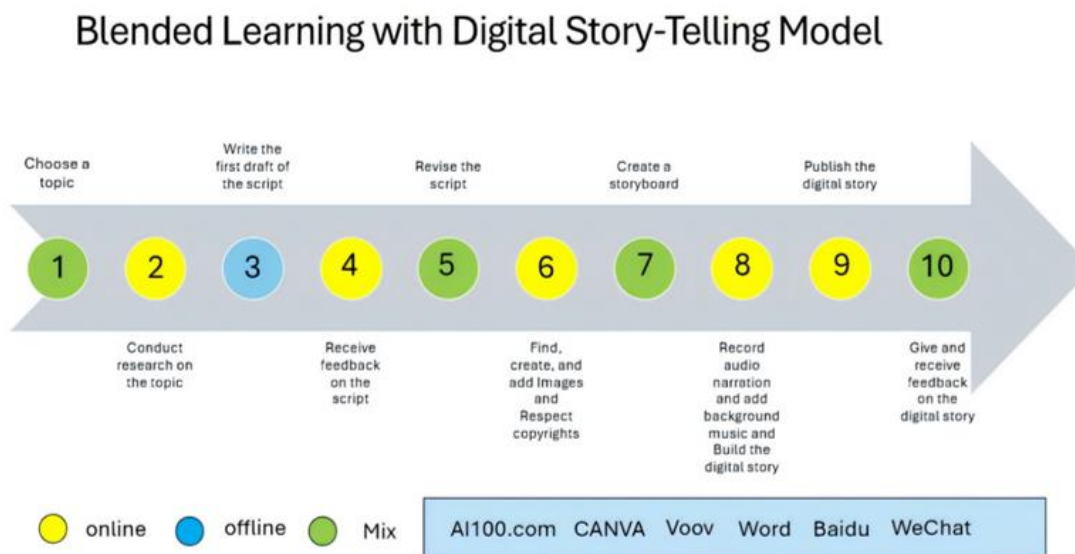


Figure 1.
The blended learning with digital story-telling model.

Table 5.
The blended learning with digital story-telling teaching process.

Step	Process	Online (Software)	Offline
1. Choose a topic	- Curriculum Alignment: The module titled "Animals in danger" is designed to teach students about the plight of endangered animals and the importance of their protection. - Real-World Relevance: The unit uses case studies and scenario-based storytelling to engage students in understanding and addressing real-world problems related to endangered species.	AIEnglish100.com	Real-world case studies by students themselves
2. Conduct research on the topic	Allow students to search the similar stories to prepare their story creation.	Baidu, Douyin	Peer discusses
3. Write the first draft of the script	Divide a class 40 students into 8 groups, and teacher can do this randomly or based on certain criteria such as skill level, personality types, or prior knowledge to ensure a balanced distribution.	Group discuss on We-chat	Word
4. Receive feedback on the script	Students submit the scripts(word document) through AIEnglish100.com and then teacher provide feedback on the script.	AIEnglish100.com	Face to face feedback
5. Revise the script	Use the feedback that teacher received to improve the next version of story script.	Wechat, Voov, Word	Word
6. Find, create, and add Images	Students can utilize Canva's drag-and-drop design tools to edit images and create designs for their stories.	Baidu, Canva	-
7. Create a storyboard	Teacher should supervise students to create a storyboard that is a written or a graphical overview of all of the elements they plan to include in the digital story.	Canva	-
8. Record audio	Students may apply the high-quality microphone or a voice recording in Canva software when they create story. Music that is appropriate to the theme of the story can add richness by complementing the narration. Finally, the complete story has been edited out.	Canva	-
9. Publish the digital story	Share their digital story online at "AI.English100.com".	AI.English100.com	-
10. Give and receive feedback	Teacher and students give feedback on how to improve the digital version.	AI.English100.com	Face to face feedback

5. Discussion

The findings of this study, which assessed the learning needs of primary school students in English courses across four dimensions: blended learning, digital storytelling learning, English communication skills, and self-efficacy align with existing research on language learning methodologies and student needs.

The results highlighted a clear need for blended learning approaches, with students expressing a strong desire to access more online English learning materials and benefit from teachers' in-person support. This aligns with findings from Ramalingam, et al. [18] who emphasized that blended learning effectively combines the strengths of online and traditional face-to-face instruction, fostering a more engaging and flexible learning environment. Additionally, Andriyani, et al. [17] observed that blended learning approaches are particularly beneficial in enhancing language acquisition, as they provide diverse resources and learning opportunities.

In the dimension of digital storytelling learning, respondents expressed a strong need for engaging materials such as English movies, videos, and animated characters. This is consistent with Yang, et al. [22] which emphasize again the value of digital storytelling in education, particularly in increasing students' engagement and motivation. Similarly, Parsazadeh, et al. [25] found that incorporating digital

storytelling into language instruction not only enhances comprehension but also encourages creativity and collaboration among students.

The strongest need identified in this study was for improvement in English communication skills, particularly in speaking, listening, and writing. These findings corroborate those of Ibna Seraj, et al. [5] who argued that communicative competence is central to language learning and should be prioritized in curricula. Studies by Utami and Wahyudin [30] also demonstrated that a focus on communication skills significantly improves students' confidence and real-world application of the language, emphasizing the importance of integrated approaches to language instruction.

The self-efficacy dimension revealed a high need among students to build confidence in their English learning abilities and seek help from peers and teachers. Sun and Wang [12] posits that belief in one's capabilities is critical for academic success. The results of this study align with findings from Bai and Wang [28] who reported that higher levels of self-efficacy among language learners lead to greater persistence, effort, and achievement.

Overall, the study found that students perceive significant needs across all four dimensions, with English communication skills and self-efficacy being the most urgent. This is consistent with the broader literature on language learning in primary education. For instance, Lin and Wang [31] emphasized the importance of addressing young learners' emotional and psychological needs, such as confidence and motivation, in addition to cognitive development. The findings also align with studies conducted in similar contexts, such as Liu [32] work in Chinese primary schools, which identified communication and confidence-building as key areas for development in English education.

6. Limitations

Firstly, due to the limited time and resources, this study only focused on Tongren city China, the research findings of this study might not be able to apply to the other regions of China. Secondly, this study has only focused on the primary students' needs in English courses, but not yet provide detailed interventions for satisfying those student needs. Thirdly, this the targeted population in this study was the primary students who studies in Tongren city, has not yet included the students from rural areas, due to different socioeconomic background, the students in rural area might have different needs in English learning. Lastly, the targeted population was young learners who may have difficulty articulating their specific needs or preferences, leading to inaccurate or incomplete data.

7. Implications

The findings of this study have demonstrated the urgent need to integrate blended learning and digital storytelling models into English education in Chinese primary schools. Thereby the researchers presented several key implications for educators in the field of English education of primary schools. First, blended learning approaches should be prioritized, as they combine the flexibility of online resources with the personal support of in-person instruction. Second, digital storytelling tools, such as animated videos and engaging narratives, should play a central role in English instruction. Third, English courses should shift their focus toward developing students' practical communication skills through real-world, communication-driven learning activities. Fourth, fostering self-efficacy through positive reinforcement and collaborative learning activities is essential.

8. Conclusion

This study provides valuable insights into the learning needs of Chinese primary students in English education. The findings highlighted the importance of English communication skills, self-efficacy, blended learning, and digital storytelling learning in preparing students for success in English learning. However, to align curricula with these identified needs, future research shall focus on students' communication skills and self-efficacy to develop a new teaching method integrated with blended learning and digital storytelling, especially for primary students to meet their needs.

Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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