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Reducing English-Speaking Anxiety and Enhancing Speaking Performance Through a Story Cube Intervention: A Quasi-Experimental Study

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ABSTRACT

Anxiety when speaking English among second language speakers is an ongoing issue in the ESL classroom. It has become a top priority for ESL teachers to find solutions to this issue, and this can be done through pedagogical interventions that aim to reduce anxiety and promote meaningful communication. This study employs a quasi-experimental design to examine the effectiveness of the Story Cube intervention. The pre-test–post-test control group design involved 120 secondary school students. An instrument that combined the English-speaking anxiety scale with an analytic speaking performance rubric assessing fluency, pronunciation, vocabulary, grammatical accuracy, and coherence was used to collect data. The analysis of covariance (ANCOVA) was used to analyse post-test outcomes while controlling for pre-test differences. The findings showed that students exposed to the Story Cube intervention experienced a statistically significant reduction in English-speaking anxiety and achieved significantly higher speaking performance scores than those receiving conventional instruction. This study implies that game-based storytelling activities can be integrated into classroom pedagogy through interventions that create affective-sensitive ESL classroom learning.

Keywords: English-speaking anxiety, ESL learners, game-based storytelling, quasi-experimental study, speaking performance, Story Cube intervention

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INTRODUCTION

Speaking English has been the most important communication skill for individuals for centuries now. Since the earliest era of industrialisation, driven by the British policy of colonisation, English has been the primary language of communication worldwide. For people around the world, English quickly became their second language as British colonialism expanded. Today, English is a second language for most people around the world, and the development of English-speaking skills for students who are second-language speakers has become an important point of discussion. Extensive research has been conducted on the development of ESL and the various aspects of ESL teaching and learning. Despite centuries of exposure to English, new second-language speakers continue to struggle to learn and use the language, especially in speaking. Speaking English has always been a concern for second-language learners due to the issues surrounding it.

Anxiety when speaking in the English language is an issue that has been researched substantially around the world. Studies have shown that English language speaking anxiety is a primary hindrance to effective oral communication. At the same time, ongoing research has shown that more research is required because English-language speaking anxiety is related to contextual factors that vary across communities, societies, and even individuals. Speaking anxiety is closely associated with learners' willingness to communicate, as psychological, social, pedagogical, and contextual factors may either facilitate or inhibit their readiness to use the target language (Shanmugan et al., 2025; Subramaniam et al., 2026). Affective variables, as mentioned in Alrabai (2020), are elements of concern when it comes to understanding speaking anxiety among second language learners. Studies like Zhang and Tsung (2021) have recorded how speaking anxiety can be related to fear, which can be broken down into fear of being judged and fear of embarrassment. Mustapha and Uri (2024) described speaking anxiety as the common factor behind students' lower fluency and accuracy in English.

Subsequently, research in second language anxiety has further expanded into findings that are related to impacts on students' emotional well-being and overall language achievement. Continued anxiety when speaking in English has significant effects on students' self-confidence in the classroom (Botes et al., 2020; Teimouri et al., 2022). Additionally, it affects students' learning experiences, leading to negative motivation in the classroom (Badrasawi, Solihu & Ahmad, 2020). More research also uncovered how continued anxiety results in effects on cognitive processing during speech production (Badrasawi et al, 2020). These adverse effects of speaking anxiety have driven research towards finding viable solutions for ESL learners who struggle with speaking in the English language. It has spurred research in contemporary language pedagogy that focuses on alternative and modern techniques for ESL teaching and learning.

Using games, for example, has become a trend in recent years because research has shown that classroom games can help students manage their anxieties. Likewise, student-centred activities, particularly interactive ones, have been shown to help learners acknowledge their anxiety and become more confident when speaking English (Phan & Phan, 2024). Contemporary teaching methods have also encouraged the infusion of storytelling as an interesting and effective technique in the ESL classroom. Storytelling can be traced back to the earliest stages of the evolution of the English language, and ever since, it has been a popular way of teaching many things (Ghafar, 2024). From a storytelling perspective, students are positioned as active constructors of learning, making them more responsible for their participation and more confident when speaking in English.

The Story Cube intervention is a tool that combines multiple elements of contemporary teaching and learning. Essentially, it is a tool designed to help students struggling with anxiety when speaking English. It is a game-based intervention that uses the storytelling technique as a basis to promote effective communication. Additionally, the Story Cube intervention is designed to encourage creative storytelling by eliminating the usual negative evaluation and potential embarrassment that some students may experience when speaking in a second language. Creativity, which is the focus of the Story Cube intervention, helps students reduce unnecessary emphasis and stress when speaking English.

Exploring the current literature related to English-speaking anxiety among second language learners, several significant limitations must be acknowledged. There is sufficient research addressing the relationships between various affective variables and speaking performance (Subramaniam et al., 2026). However, few studies have explored interventions and experiments with pedagogical innovations to improve the affective elements related to speaking skills (Teimouri et al., 2022). More research is required to explore how interventions can be developed and utilised for the specific purpose of helping second language learners with English speaking anxiety. The current study addresses the gaps in the literature by examining the effects of using the Story Cube intervention.

English-Speaking Anxiety in Second Language Learning

Anxiety in second-language learning, especially when speaking in English, has been widely documented in past studies such as Höl and Kasımi (2022), Tran (2022), and Kiruthiga and Christopher (2022). Tran (2022) indicated that anxiety in speaking stems from various factors, including an individual's past experiences, content knowledge, grammatical knowledge, confidence, and culture. Kiruthiga and Christopher (2022) added that anxiety and the factors that cause anxiety ultimately cause avoidance behaviours and reduced willingness to communicate in the target language. Furthermore, Xue and Noels

(2025) have stated that, in some cases, speaking anxiety is not necessarily related to low-proficiency learners, as research has shown that students with good grammatical and lexical knowledge sometimes experience increased anxiety in speaking situations.

Nevertheless, studies over the last five years have provided strong evidence that second language anxiety affects learners' overall speaking achievement. Botes et al (2020) stated that anxiety causes a significant impact on the student's emotional elements, and this, in turn, affects oral language development. These studies point to the importance of ongoing exploration of English-speaking anxiety and further emphasise the need for the current study using the Story Cube intervention.

Relationship Between Speaking Anxiety and Speaking Performance

Research has extensively proven the relationship between speaking anxiety and speaking performance. Findings have pointed out that anxiety interferes with speech production when cognitive load is increased due to anxiety (Pike & Raymundo, 2024). When an individual experiences cognitive load, speech is impeded, resulting in stuttering and long pauses that can adversely affect communication (Ismail et al., 2023). Ismail et al. (2023) further explained that students' anxiety when speaking English causes additional issues, especially regarding continued language learning and language development.

There is enough evidence in the most recent studies to support the fact that speaking anxiety can be managed through activities that address the emotional factors caused by anxiety. The interactionist theory is a basis for understanding the works of the Story Cube. This is because the Story Cube is very useful for encouraging and promoting interactions. The interactionist's point of view on this matter must be taken into consideration because, from this perspective, reduced anxiety in speaking can improve the learner's fluency and overall oral performance (Derakhshan et al., 2022; Kruk et al., 2022). However, most current studies have not explored further into the experimentation of classroom interventions that can reduce anxiety and increase oral output.

Task-Based, Game-Based, and Storytelling Approaches in Speaking Instruction

Teaching speaking skills has evolved, gradually shifting from a traditional perspective to a more contemporary one. Contemporary ideologies have driven research on game-based learning approaches and task-based instructions for speaking skills (Lim et al., 2022). Results have been positive, especially when studies explored the use of games integrating non-conventional speaking tasks. It has been shown that meaningful interactions arising when lessons indirectly foster learner autonomy yield better language outcomes.

Storytelling approaches are effective for creating task-based interactive activities because they can be easily adapted into a variety of activities. Storytelling

is not only associated with the creative process but is also significantly related to meaning-making, collaborative thinking, and authentic language use (Nguyen & Newton, 2020). Storytelling is also a very prominent component of culture, especially in cultures of second-language speakers, which gives it the additional advantage of fostering language use. Teachers can create a multitude of tasks from storytelling activities that focus on the transfer of information, ideas, and meaning, and eventually eliminate anxiety.

According to Kruk et al. (2022), game-based learning using storytelling can be a highly effective way to reduce affective factors that increase anxiety when students speak in a second language. Games are effective in enhancing learner engagement and creating a playful, collaborative environment among younger learners (Kayi-Aydar, 2021). Activities that involve playful and collaborative tasks eventually help learners reduce their anxiety and increase their willingness to speak in the second language (Tabari et al., 2024). Storytelling ultimately embeds learning of second-language components and fosters effective language learning (Tabari et al., 2024).

Story Cube Intervention and Identified Research Gaps

The Story Cube's physical components include visual prompts in the form of a cube. Each side of the Story Cube has a visual prompt that the learner can use to describe verbally. It is generally intended for small groups of three to four students, in which the Story Cube is used for collaborative storytelling. The process of using the Story Cube reflects the underlying principles of affective-sensitive pedagogy which has become the focus in recent SLA research. The ideas of affective-sensitive pedagogy stem from ongoing research and exploration into the anxiety experienced by second-language learners. A deeper understanding of the emotional setbacks and adverse effects on the overall language development of learners has brought about awareness of affective-sensitive pedagogy.

Upon evaluating past research, it can be summarised that most studies provide results based on single variables, such as learner motivation, fluency, and oral outcome (Tabari et al., 2024; Lee et al., 2022). There has been less emphasis on a holistic variable that reflects the affective factors associated with anxiety in speaking English. This further emphasises the need for the current study, in which the Story Cube is tested using experimental methods, and the effects of the intervention on affective elements in the classroom are examined.

This research is vital in an environment where anxiety in the SLA classroom is becoming a critical barrier to better learning. Experimenting with an intervention like Story Cube yields results that can partially address questions about the anxiety learners experience when speaking English. It provides a design and methodology for future studies that should further develop the use of the Story Cube in classroom settings.

Summary and Research Gap

Review of past literature has further proven that English-speaking anxiety is a recurring issue in the SLA classroom. Past studies have reported that the phenomenon obstructs oral performance and, in the long run, impacts a student's overall academic achievement. However, gaps persist and require robust research to address. An obvious gap in the literature is the scarcity of studies that explore the in-depth interrelationship between anxiety and speaking performance. Furthermore, studies have not fully explored interventions that address anxiety in speaking and the relationship with affective elements, as well as speaking performance. Most importantly, there is little empirical evidence examining the integration of storytelling and game-based interventions.

METHODOLOGY

Research Design

A quasi-experimental design using pre- and post-tests with controlled and experimental groups is employed. The design is chosen for its suitability to the aims of the current study. The quasi-experimental design is a popular approach in educational research, allowing for causal inference (Creswell & Guetterman, 2021). The use of the pre-tests and post-tests allowed the researcher to evaluate baseline differences between groups.

Participants

120 ESL students at a secondary school in Malaysia were participants of the study. These are students of two intact classes. Essentially, this study employed purposive sampling. Relying on intact classes may affect the results, since students may have existing dynamics, relationships, and experiences. The existing dynamics and relationships between students in each class may affect the anxiety levels. Still, each student is subjected some level of anxiety when speaking in the second language depending on the level of speaking required.

To ensure that both groups, the controlled group (n=60) and the experimental group (n=60), were at a similar level of English proficiency, a pre-test was conducted. The results showed no significant differences at baseline. In terms of ethical approvals, all relevant permissions from the relevant authorities, including the school headmaster, were obtained. Informed consent was also obtained from students and their guardians. The researcher ensured that confidentiality was maintained throughout the study.

Instruments

English-Speaking Anxiety Scale

A survey questionnaire adapted from foreign language anxiety instruments previously developed and used in past studies was utilised as the instrument to evaluate the English-speaking anxiety. The instrument encompasses the different dimensions of speaking anxiety, which include embarrassment, fear of negative evaluation, and apprehension, as well as avoidance in the classroom context. The five-point Likert scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*),

was used in the instrument. The Cronbach's alpha analysis was conducted to assess internal consistency, and the results showed that the instrument's alpha coefficient exceeded the recommended threshold of .70, indicating acceptable internal consistency (Taber, 2020).

Speaking Performance Assessment

Students' speaking performance was assessed using an analytic speaking rubric that evaluated five dimensions: fluency, pronunciation, vocabulary use, grammatical accuracy, and coherence. Analytic rubrics are recommended for speaking assessment as they provide detailed diagnostic information and enhance scoring reliability by reducing rater subjectivity (Knoch & Chapelle, 2021). Two trained raters were appointed to evaluate students' oral performances based on audio-recorded speaking tasks. The raters went through the deliberation process before the evaluation to calibrate the instruments.

Intervention Procedure

The intervention period was set at twelve weeks. The experimental group participated in the intervention using the Story Cube-based speaking activities. Throughout the activities, students engaged in collaborative storytelling, using visual prompts to inspire creative storytelling. On the other hand, the control group students participated in conventional classroom teaching and learning. In the control group, speaking activities were mostly textbook-based. The teacher used the materials to conduct speaking lessons in a more controlled manner. For future replicability, it is recommended that teachers use the Story Cube intervention for at least 12 weeks. It can be combined with activities such as discussion of the storyboard, short sketches, and team games.

Data Collection Procedure

Data collection was conducted by first administering pretests to assess the students' English-speaking anxiety and speaking performance in both groups. Following that, the intervention was conducted with the experimental group, while the control group received conventional instruction. Post-tests were conducted using the same instruments to assess the changes in the anxiety levels and speaking performance.

Data Analysis

Analysis of Covariance (ANCOVA) was used to analyse the comparison of post-test scores between the groups. The ANCOVA was used because it is well-suited to the quasi-experimental design.

Methodological Rigor

Some important steps were taken to ensure the methodological rigor in the current study. The teachers who taught the two groups were thoroughly trained and briefed on the study. This was done to ensure that different teacher behaviours, such as a warmer tone and an encouraging manner, would not affect the study's results. The study duration, lessons taught, lesson content, and assessment procedures were precisely

standardised. This is to ensure that the results remain valid and accurate between the two groups without any interference of external factors.

RESULTS

Table 1 shows the descriptive analysis of the data collected for speaking anxiety and speaking performance. The results are reported based on the experimental and control group of the current study. The pre-test and post-test mean of both groups are recorded. For the English-speaking anxiety, the experimental group scored a higher mean score (3.743±.599) at the pre-test compared to the post-test (2.789±.460). Meanwhile, the controlled group scored (3.649±.359) in the pre-test and (3.478±.590) in the post-test. In terms of the speaking performance, the experimental group scored higher (3.379±1.293) in the post-test compared to the results in the pre-test (2.412±.472). The controlled group scored (2.389±.507) in the pre-test and (2.898±.472) in the post-test.

Effect of the Story Cube Intervention on English-Speaking Anxiety

An ANCOVA analysis was conducted to further analyse the effects of the story cube intervention. Table 2 shows the results

Table 1
Descriptive Statistics for English-Speaking Anxiety and Speaking Performance

Variable	Group	Pre-test Mean (SD)	Post-test Mean (SD)
English-speaking anxiety	Experimental	3.743 (.599)	2.789 (.460)
	Control	3.649 (.359)	3.478 (.590)
Speaking performance	Experimental	2.412 (.472)	3.379 (.293)
	Control	2.389 (.507)	2.898 (.472)

Note. Experimental group = Story Cube intervention; Control group = conventional classroom practices

Table 2
ANCOVA analysis for English-Speaking Anxiety

Tests of Between-Subjects Effects						
Dependent Variable: Post						
Source	**Type III Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**	**Partial Eta Squared**
Corrected Model	13.345a	2	6.672	26.513	.000	.482
Intercept	1.849	1	1.849	7.348	.009	.114
Pre	6.134	1	6.134	24.373	.000	.300
Group	6.418	1	6.418	25.502	.000	.309
Error	14.345	57	.252			
Total	719.930	60				
Corrected Total	27.689	59				

a. R Squared = .482 (Adjusted R Squared = .464)

of the one-way ANCOVA. The analysis showed that there is an overall statistically significant difference in post-intervention results between experimental and controlled groups once their means are adjusted for pre-test results. The p-value (<.0005) shows that the difference is statistically significant.

Effect of the Story Cube Intervention on Speaking Performance

An ANCOVA analysis was conducted to further analyse the effects of the story cube intervention. Table 3 shows the results of the one-way ANCOVA. The analysis showed that there is an overall statistically significant difference in post-intervention results between experimental and controlled groups once their means are adjusted for pre-test results. The p-value (<.0005) shows that the difference is statistically significant.

Summary of Findings

The analysis showed that the Story Cube intervention had a statistically significant effect on the English-speaking anxiety and speaking performance of the students in the experimental group. As opposed to that, the students in the controlled group who went through conventional lessons did not show significant changes in terms of anxiety and speaking performances.

DISCUSSION

The effectiveness of the Story Cube intervention was examined in this study. The results showed that students in the experimental group who took part in the intervention with the Story Cube experienced significant reduction in terms of speaking anxiety. Post-tests also showed improvements in terms of speaking performances. Every result in this study has been further discussed as below.

Effect of the Story Cube Intervention on English-Speaking Anxiety

The Story Cube intervention caused significant reduction in anxiety among

Table 3
ANCOVA analysis for English-Speaking Perfomance

Tests of Between-Subjects Effects						
Dependent Variable: SPPost						
Source	**Type III Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**	**Partial Eta Squared**
Corrected Model	36.656a	2	18.328	32.378	.000	.532
Intercept	.002	1	.002	.004	.948	.000
SPPre	22.640	1	22.640	39.994	.000	.412
Group	6.259	1	6.259	11.057	.002	.162
Error	32.266	57	.566			
Total	571.942	60				
Corrected Total	68.923	59				

a. R Squared = .532 (Adjusted R Squared = .515)

students in the experimental group. This can be attributed to the design of the Story Cube intervention and the procedures used throughout the lessons during the intervention because students in the controlled group went through lessons focusing on speaking activities without the Story Cube but it failed to help students reduce the anxiety felt. This result aligns with the findings recorded in past studies which found that activities that promote affective sensitive instructional techniques can reduce students' anxiety when they speak in the second language (Lim et al., 2022). Additionally, the Story Cube's integration of visual prompts increased the willingness of students to speak in the language (Tabari et al., 2024).

The findings are rooted in the theoretical perspectives of affective filter hypotheses which is extremely vital in SLA. The use of the Story Cube promotes the employment of strategies that encourage student autonomy and giving them creative freedom to construct stories freely. Ultimately, this study has reinforced certain theoretical understandings related to SLA. Playful activities like the Story Cube focus on meaning-making and eventually lower the affective barriers resulting in increased willingness to speak (Teimouri et al., 2022; Pawlak et al., 2021). While it can be argued that speaking frequency during the intervention contributed to the reduced anxiety, the role of the Story Cube which integrated structured storytelling procedures not only reduced anxiety but increased confidence to speak out ideas.

Effect of the Story Cube Intervention on Speaking Performance

One of the key findings in this study demonstrated that the intervention increased speaking performances in multiple dimensions. Task-based and game-based learning have been proven to improve fluency, coherence and lexical use. Activities which incorporate elements of game-based learning reportedly have been able to increase students' speaking in terms of fluency, coherence and lexical use. Collaborative speaking activities driven by the use of the Story Cube encouraged learners to speak with more meaningful contents (Sato & Loewen, 2023; Kruk et al., 2022). It was clearly observed that the Story Cube enhanced their speaking performance primarily by reducing the cognitive load and making the creative process easier.

In line with Jaya et al. (2022), the current study showed that the Story Cube intervention improved spontaneous language production because of its features like visual prompts through the images on the Story Cube. On top of that, the use of visual prompts in the current study has been a key highlight. The visual prompts are in line with the concept of scaffolding where the Story Cube Evidence in the results further proved that speaking performance was not only spontaneous but reflected the students' real thoughts and creative ideas as opposed to prepared speech. One clear evidence in the rubric is the aspect where meaning-making was evaluated, and students showed different levels of meaning-making when

they spoke. The Story Cube aids students' creative thinking and development of their cognitive processes systematically.

Linking Anxiety Reduction and Speaking Performance

Anxiety reduction and speaking performance are two variables that are related inversely. Essentially, the results in the current study as shown by the empirical evidence showed that there is a reciprocal relationship between anxiety reduction and increase in speaking performance. It aligns with some of the past studies which showed that students who have less speaking anxiety, speak more freely and confidently (Derakhshan et al., 2022; Pawlak et al., 2021). It is obvious that speaking performance is influenced by the reduction of anxiety in speaking because when the level of anxiety is reduced, willingness to speak increases making students speak with more confidence.

Corrective feedback was not the focus of the current study and therefore, corrective feedback was not given explicitly for both the groups. This was done to ensure that no other elements influenced the reduction of anxiety in speaking and the increase in speaking performance. This enhances the results of the study where the focus is the employment of game-based storytelling intervention to improve speaking performance and reduce speaking anxiety. The experimentation of a single pedagogical invention such as the Story Cube that can integrate the principles of affective-sensitive pedagogy and correlatedly increase speaking performance by reducing speaking anxiety reinforces the call for integrative ESL approaches (Waluyo & Bakoko, 2022).

Novelty and Contribution of the Study

This study ultimately provides concrete evidence that supports the Story Cube intervention as a contemporary solution to the speaking anxiety issues faced by second language learners. This study distinguishes between the elements of motivation and confidence that have been studied extensively in the past. It provides clarity in understanding how the dimensions of speaking performance can be significantly increased through reduction of speaking anxiety with the use of an intervention that addresses the affective aspects of learning. Unlike technology-dependent interventions, the Story Cube approach requires minimal resources, making it accessible for diverse educational contexts. This practical advantage enhances the relevance of the findings for classroom practitioners and curriculum designers.

CONCLUSION

The Story Cube intervention reduced English-speaking anxiety and improved speaking performance of the students in the experimental group. The students in the controlled group who went through conventional classroom practices did not experience significant reduction in anxiety and improved speaking performance after the duration of intervention. Ultimately, these findings indicate that the Story Cube intervention succeeded in lowering

the English-speaking anxiety among the students. This resulted in the improvement of speaking performance among the students. The results call for fresher innovations that integrate game-based storytelling approaches in the classroom. In conclusion, the Story Cube intervention represents innovations in the classroom that can address the speaking anxiety of students and improve the students' speaking performance.

IMPLICATIONS OF THE STUDY

Pedagogical Implications

This study has provided results that support the pedagogical practices which are affective-sensitive. Stemming from the ideas of Krashen's Affective Filter Hypothesis, the pedagogical practices which are affective sensitive are generally teaching and learning activities that eliminate or reduce practices which elevate a student's anxiety. These practices promote learner engagement, collaboration and creativity. The use of the Story Cube does this by encouraging learners to communicate in groups and produce meaningful interaction without having to worry about being judged or corrected. Additionally, the Story Cube also promotes the use of low-cost easy to produce teaching aids that can create positive impacts in the classroom. It is an ideal tool that reinvents classroom dynamics and gives teachers the advantage to address issues like speaking anxiety.

Theoretical Implications

The study supports contemporary SLA research by providing empirical evidence that further corroborates the theoretical claims surrounding oral performance and affective factors. It has been reported that speaking development is not entirely a linguistic process but rather a combination of various emotional elements that create a better oral development. The discoveries made in this study is in line with Pawlak et al. (2021) who also explained how the emotional factors played a significant role in the development of speaking skills among students. Additionally, the study lends support to the more popular game-based theoretical foundations for language learning. It supports the integration of gamification features that increase learner participation and eventually give positive impacts towards their speaking skills and anxiety levels.

LIMITATIONS FOR FUTURE RESEARCH

There are limitations that should be acknowledged. The quasi-experimental design is not without its limitations. Depending on it has limited the generalisability of the findings to understand the ESL speaking anxiety phenomena among students all over Malaysia. This brings the suggestion for future studies to randomise trials across schools in different states and districts. Second, corrective feedback is a critical part of SLA and without controlling corrective feedback totally, the results of the study can still be affected. In the future, both the controlled and experimental groups should be taught without any kind of corrective feedback

to avoid interference in the results. On top of that, the duration of the intervention was short. Longitudinal research is better for deeper insights and better quality of results. Finally, the entire study depends on quantitative measures. Addition of qualitative data could provide in-depth information on the learners' attitudes and emotions. Classroom observations could provide valuable data on the use of the Story Cube and the students' perceptions towards its use.

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