SEAMEO CENTRES POLICY RESEARCH NETWORK (CPRN) SUMMIT 2025

Building Bridges to a Sustainable Future: Inclusive Collaboration and Innovation in Education, Science, and Culture

STORIES TO EXPERIMENT: Implementing STREAM in TESOL Classrooms

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Background & Rationale

"Skills in STEAM... should be strengthened, taking into consideration the importance of these skills as a catalyst for development."

(His Majesty Sultan Haji Hassanal Bolkiah, 2023; Titah during the 33rd Teachers' Day Celebration.)

Background & Rationale

- Addresses the national vision by integrating STREAM into English language classrooms through storytelling.
- ESL learners need engaging, meaningful contexts for language development. STREAM = STEM + Reading + Arts → supports creativity and literacy. TESOL classrooms can benefit from interdisciplinary storytelling.
- Addresses the gap: Limited research on STREAM in primary TESOL settings.

Research Questions

RQ 1: How can storytelling-based STREAM activities support English language learning?

RQ 2: What impact does this approach have on vocabulary, writing, and engagement?

Methodology

Week 1
- Introduction & Pre Test

Week 2 - 3
- Exploring the story
- Characters
- & Predictions
- Speaking focus

Week 4
- STEAM Integration
- Seed planting

Week 5 - 7
- Descriptive writing
- Interactive games (word hunts etc.)
- Speaking focus

Week 8
- Experiment progress - tracking plants growth.
- Presentation

Week 9
- Creative writing
- Write an alternate ending

Week 10
- STEAM integration.
- Basic engineering concept.
- Group project.

Week 11 - 13
- STEAM integration.
- ART and storytelling.
- Speaking practise

Week 13 -15
- Presentation
- Reflection and feedback

Methodology

Action research

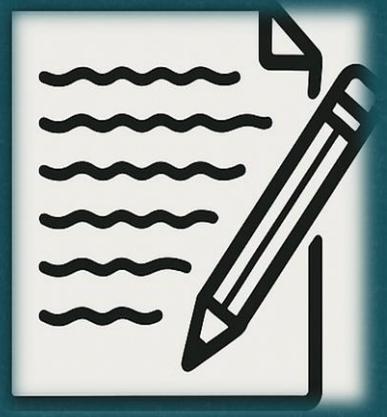
16 weeks
Jan–May 2025

25
Year 5 ESL students

Methodology

Data Collection

Vocabulary pre/post-tests



Writing samples

Classroom observations

Reflection journals

Lesson Framework

Thematic base:

Jack and the Beanstalk

Lesson Framework

STREAM-integrated activities

Seed planting (Science)

Pulley construction (Engineering)

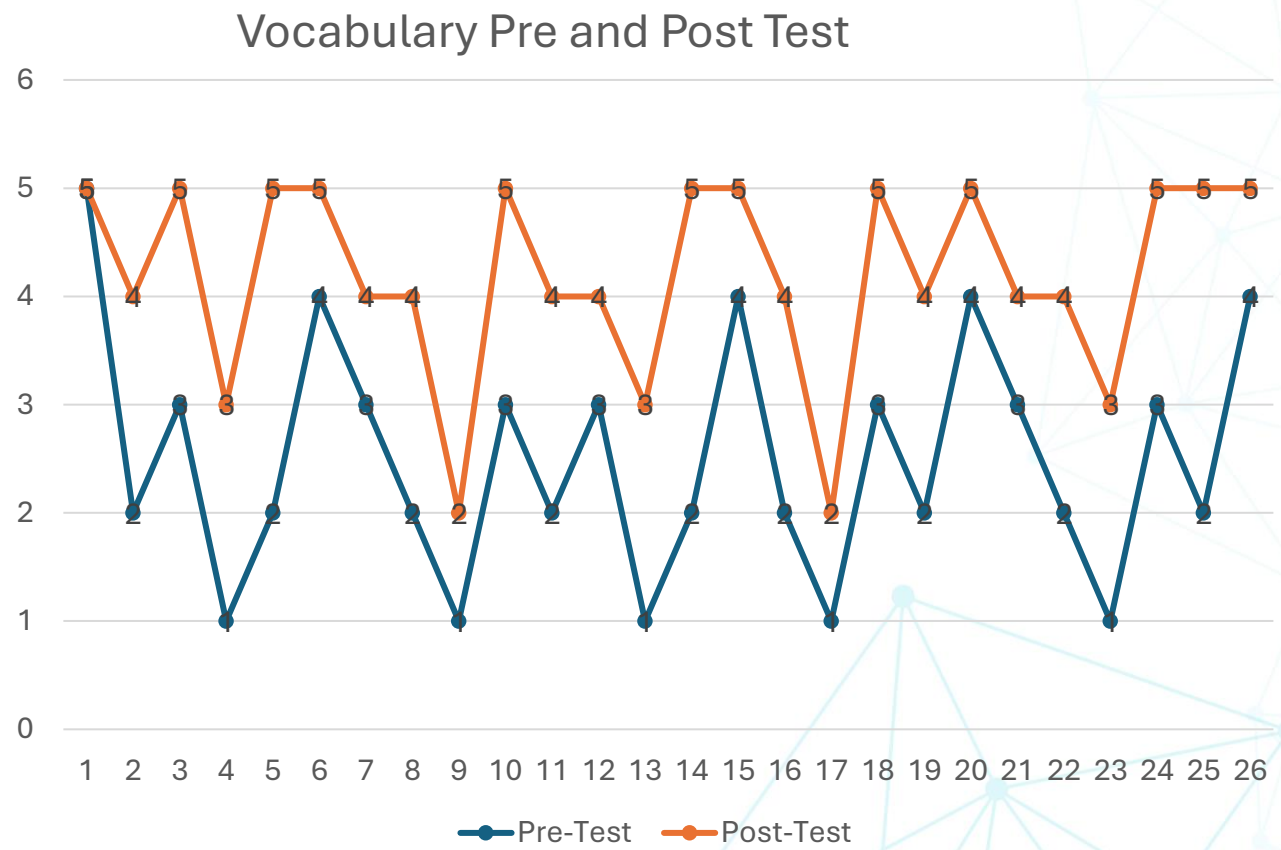
Measurement (Math)

Story retelling (Language Arts)

Findings

Vocabulary

- Pre-test average: 2.36 → Post-test average: 4.32
- 36% improvement



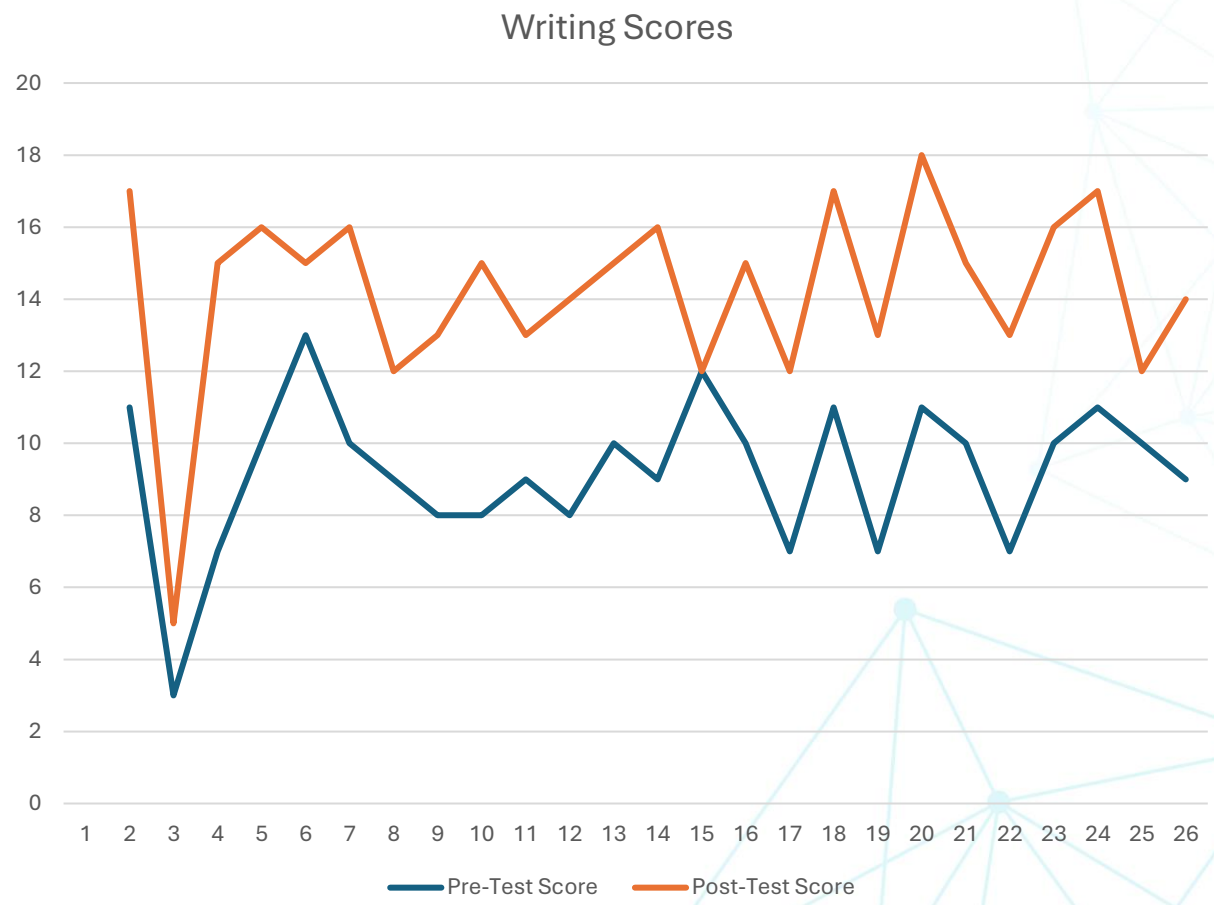
Findings

Writing

Rubrics:

- Vocabulary
- Sentence Structure
- Creativity
- Grammar
- Relevance to theme

Metric	Score
Average Pre-Test	9.2
Average Post-Test	14.24
Average Improvement	+5.04



Engagement Findings

Hands-on STREAM experiments: 4.7

- "I like learning English like this."
- "This was so fun!"

- Story-based vocabulary lessons: 4.3

- Creative writing: 4.1

- Traditional worksheets: 3.2
  - "It was okay."
  - "I give this 3 stars out of 5."

Limitations

Small sample size

(25 students, 1 school)

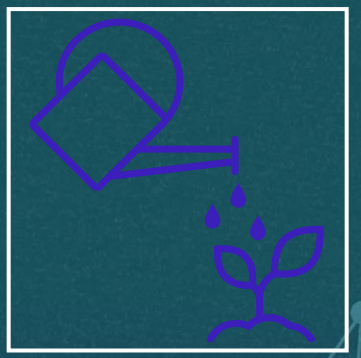
Researcher was also classroom teacher → potential bias

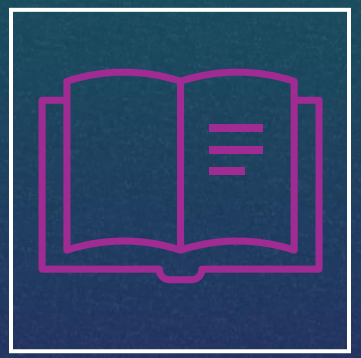
Timeframe (16 weeks) limits long-term conclusions

Conclusion

STREAM-based storytelling supports vocabulary, writing, and motivation.

Students engage more deeply through narrative and experimentation.





Promising model for TESOL in 21st-century classrooms.

Recommendation

As highlighted by the Minister of Education Yang Berhormat Datin Seri Setia Dr Hajah Rumaizah binti Haji Mohd Salleh:

"The integration of STEAM is a powerful catalyst for innovation and progress... We need to equip our students with skills and knowledge as well as nurture their creativity, critical thinking and problem-solving skills."

(Keynote, 2024 National Education Symposium)

Recommendation

Expand STREAM

include variety of stories and folktales across the curriculum

Leverage Digital Tools

Use of interactive journals, digital storytelling platforms

Provide Professional Development for teachers

Conduct longitudinal studies across different schools for deeper impact analysis

References

- CapstAn (2023), SB Magazine (2021), Gardner (1999), Kolb (1984), Ellis & Brewster (2014), Yakman (2008)

IT ALL STARTS WITH MINDSET

A mindset that says stories are not just to be read, but to be explored.

Thank You

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