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# Teaching Thirukkural to Form 2 Students Through the Cognitive Theory of Multimedia Learning

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**Abstract.** This study explores the effectiveness of integrating multimedia learning tools, guided by Mayer's Cognitive Theory of Multimedia Learning (CTML), in teaching Thirukkural to Form 2 students. Thirukkural, a timeless Tamil literary masterpiece, offers profound moral and ethical lessons. However, its classical language and intricate poetic style pose significant challenges for modern students. Recognizing these difficulties, this research adopts multimedia elements such as animation, visuals, and audio to bridge the gap between the ancient text and contemporary learners. The study aims to enhance not only students' comprehension but also their ability to memorize and interpret Thirukkural meaningfully. Through a comparative analysis of pre-tests and post-tests, the findings reveal that multimedia-based instruction significantly improved students' understanding, retention, and ability to express Thirukkural's ideas accurately, while addressing common challenges like memorization difficulties, misinterpretation, and writing errors. By demonstrating the potential of multimedia learning, this research provides valuable insights into modernizing the teaching of classical literature. Thus, employing the Cognitive Theory of Multimedia Learning (CTML) in teaching Thirukkural proves to be highly effective for Form 2 students.

**Keywords:** Thirukkural, Cognitive Theory of Multimedia Learning, Form 2 Students

## INTRODUCTION

In today's educational landscape, the integration of multimedia tools has proven to be an effective strategy for promoting active and meaningful learning. The Cognitive Theory of Multimedia Learning (CTML), proposed by Richard Mayer, suggests that students learn better when information is presented using both visual and auditory channels. This study applies CTML principles to teach Thirukkural to Form 2 students, aiming to improve comprehension and foster a deeper appreciation for this ancient Tamil text. By examining the effects of multimedia elements on learning outcomes, this study hopes to contribute valuable insights into effective teaching strategies for Tamil literature.

## 1. Background of the Study

Language serves as a vital tool for sharing thoughts, ideas, and emotions. As one of the oldest languages, Tamil has a rich history, with over 75 million speakers worldwide, preserving literature, culture, and traditions across generations. Tamil is included as an elective subject in Malaysian secondary schools, in line with national education policies (Dokumen Standard Kurikulum dan Pentaksiran, 2016). Building on the Tamil curriculum for primary education, the secondary-level syllabus emphasizes effective communication and expression through Tamil (Komathy Anthony, 2020).

Education is evolving to meet the demands of the 21st century, focusing on nurturing students with critical thinking and adaptive skills (Kathy Hirsh-Pasek, 2021). As a result, innovative teaching methods are increasingly important. Among various theories applied in education, the Cognitive Theory of Multimedia Learning has demonstrated effectiveness in enhancing learning outcomes. In Tamil language studies, mastering poetic forms and structures is a key competency, with Thirukkural occupying a central role in the curriculum (Saravanan, 2023). This text, written by Thiruvalluvar, contains 1,330 couplets divided into three sections: virtue, wealth, and love, and provides ethical guidance relevant to daily life.

In major examinations such as the UPSR (Ujian Penilaian Sekolah Rendah), questions on Thirukkural appear in the poetry section of the Tamil language paper, testing students on the content and interpretation of specific couplets. Answering these questions correctly can help students earn crucial marks in Tamil, yet many struggle to master Thirukkural effectively, perceiving it as difficult (Siva, 2024). Thus, this research seeks to use multimedia-based learning to support Thirukkural comprehension among Form 2 students.

## 2. Problem Statement

The importance of Thirukkural in the Tamil language curriculum is well-established. However, students face challenges in understanding and retaining its content due to its classical Tamil language structure, which differs significantly from modern Tamil (Siva Karthikeyan, 2024). This linguistic barrier complicates comprehension and limits students' ability to internalize the meaning of couplets, affecting their performance in examinations.

Additionally, students often struggle with memory retention, as they are accustomed to instant access to information. With limited opportunities to exercise memory skills in classrooms, they tend to forget the content taught in lessons, including the Thirukkural couplets (Manikandan, 2023). This study addresses these issues by introducing a multimedia-based approach grounded in cognitive theory, aimed at making Thirukkural learning more accessible and engaging for students.

## 3. Research purpose

This study is based in two perspectices:

1. To identify specific challenges Form 2 students face when learning Thirukkural.
2. To assess whether the Cognitive Theory of Multimedia Learning can effectively address these challenges and improve students' understanding of Thirukkural.

## LITERATURE REVIEW

A study by Kartheges Ponniah and Naina Mohamed Safeek (2024) examined how students apply their Thirukkural knowledge in new scenarios using principles from the Cognitive Theory of Multimedia Learning (CTML), particularly highlighting critical thinking in interpreting Thirukkural's complex ideas. Their findings revealed that multimedia tools facilitated cognitive engagement and enhanced students' understanding of Thirukkural's ethical teachings, demonstrating that multimedia learning can significantly improve comprehension of classical texts.

Research by Lokeshwari Arumugam, Kingston Paul Thamburaj, and Selvaraj Ramasamy (2023) introduced the innovative use of memes as an educational tool for teaching Thirukkural to Malaysian middle-school students. The study found that using memes significantly increased student engagement and understanding, providing a fresh multimedia-based approach for integrating Thirukkural into the classroom. This study suggests that creative media formats like memes can support comprehension of traditional texts, making complex material more relatable to younger generations.

The research article by Mohamad Subaidi bin Abdul Samat and Azlina Abdul Aziz (2020) also served as an inspiration for this study. Their study highlighted that technology-integrated lessons are a powerful tool for capturing students' attention, particularly effective in reading. The aim of their research was to explore multimedia learning as an approach to teaching reading comprehension. Conducted in Kelawang, data was gathered from 20 indigenous elementary school students and analyzed using SPSS, with thematic analysis applied. The findings demonstrated that multimedia learning greatly benefits the development of reading skills. Due to the valuable insights into multimedia learning applications in their study, the researcher selected this approach. Differences between their study and this one include the skills taught, participants, research methods, and data analysis techniques.

## METHODOLOGY

The methodology for this study utilizes a mixed-methods approach, combining qualitative and quantitative methods to examine the effectiveness of multimedia learning techniques in teaching Thirukkural to Form 2 students. The research was conducted at a selected secondary school where participants included 20 Form 2 students and 2 Tamil language teachers. Data collection methods included pre- and post-tests to measure student comprehension of Thirukkural teachings before and after the multimedia lessons, as well as structured interviews with teachers to gain insight into their perspectives on the effectiveness of multimedia in the classroom. These mixed methods allowed for a comprehensive analysis of both student performance and teacher observations.

To implement the multimedia learning intervention, lessons were designed based on the Cognitive Theory of Multimedia Learning (CTML). This involved presenting Thirukkural concepts through various multimedia tools, such as animation videos which were tailored to enhance cognitive engagement and retention of information. The multimedia materials highlighted the meaning and moral values within selected Thirukkural verses, making abstract ideas more accessible and relatable to students. Lessons were conducted over a six-week period, allowing for consistent exposure and familiarity with the multimedia content. Data from the pre- and post-tests were analyzed statistically to determine any significant differences in students' understanding, while qualitative data from teacher interviews provided additional insights into the impact of multimedia on student engagement.

The qualitative data analysis involved transcribing teacher interviews and coding for recurring themes related to student engagement, comprehension, and the practical challenges of implementing multimedia in a traditional classroom setting. Quantitative data from pre- and post-tests were analyzed using descriptive and inferential statistics to assess any improvement in student understanding. By combining these methods, the study provides a robust analysis of how multimedia learning can impact the teaching of Thirukkural and how teachers can use technology to enhance learning outcomes in traditional language education.

## FINDINGS AND DISCUSSION

### Identified Challenges Faced by Students in the Pre-Test

**Table 1:** Challenges Faced by Students in the Pre-Test

| **Challenges Faced by Students** | **Yes** | **No** |
|---|---|---|
| Students were unable to memorize Thirukkural | 6 (30%) | 14 (70%) |
| Students were unable to retain the meaning of Thirukkural | 8(40%) | 12(60%) |
| Students incorrectly wrote the meaning of Thirukkural | 12(60%) | 8(40%) |
| Students incorrectly expressed the idea of Thirukkural | 12(60%) | 8(40%) |
| Students made errors in writing the lines of Thirukkural | 4 (20%) | 16 (80%) |
| Students wrote Thirukkural with many spelling errors | 7 (35%) | 13 (65%) |

The table provides a breakdown of the specific challenges faced by students in the pre-test related to learning Thirukkural. It shows that 30% of students (6 out of 20) struggled to memorize the Thirukkural, while 40% (8 students) had difficulty retaining its meaning. A significant portion, 60% of students (12 out of 20), faced issues with accurately writing the meaning and the intended ideas of Thirukkural. Additionally, 20% of students (4 students) made errors when writing the lines of the text itself, and 35% (7 students) wrote the Thirukkural with several spelling mistakes. Overall, these figures highlight common areas where students struggled, primarily in comprehending, memorizing, and accurately expressing both the language and ideas of Thirukkural.

**Comparison of Pre-Test & Post-Test Scores of Experimental Group Students**

**Chart 1:** Comparison of Pre-Test & Post-Test Scores of Experimental Group Students

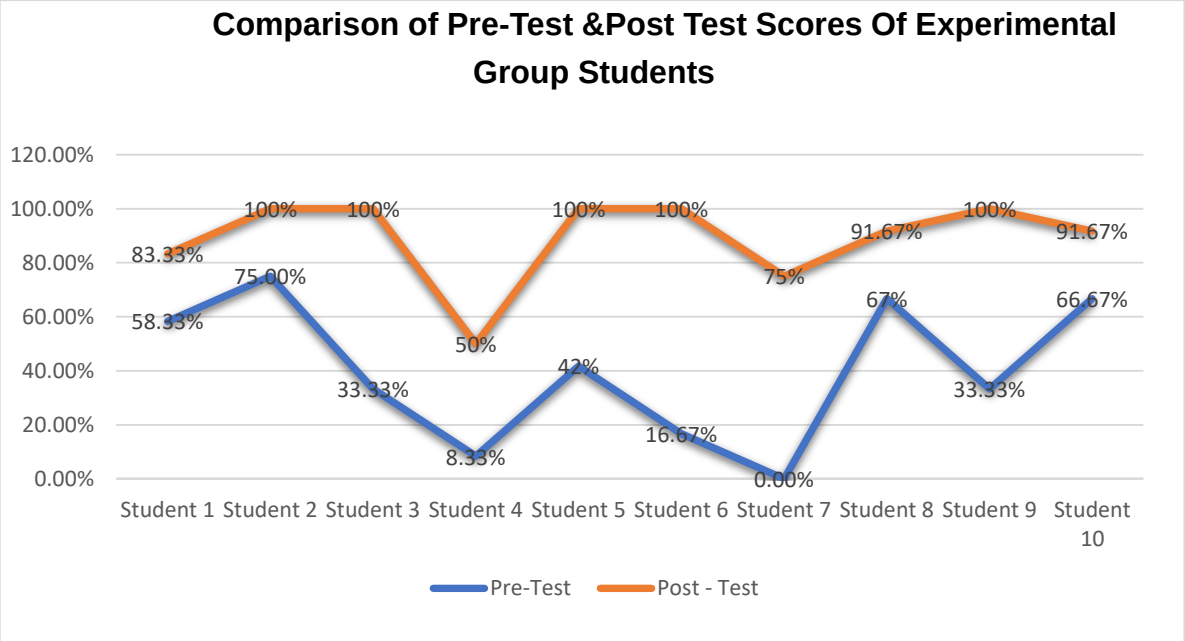


Chart 1 compares the pre-test and post-test scores of students in the experimental group, revealing significant improvement following the implementation of multimedia-based learning for Thirukkural, in alignment with Mayer's Cognitive Theory of Multimedia Learning (CTML). This theory posits that effective learning occurs when visual and auditory elements are strategically combined to facilitate meaningful cognitive engagement. Many students in the experimental group demonstrated remarkable progress, with several achieving perfect scores of 24 points (100%) in the post-test, including students 2, 3, 5, 6, and 9. A particularly notable example is student 7, who initially scored 0 (0%) in the pre-test but advanced to 18 points (75%) in the post-test. This significant leap underscores how multimedia tools, such as animation videos, can bridge comprehension gaps and enhance understanding. The overall improvement across scores illustrates the transformative impact of CTML-based interventions in making Thirukkural more accessible and engaging for students.

## CONCLUSION

This study concludes that using multimedia learning, particularly through animated videos, is a powerful strategy for teaching Thirukkural to students. This method not only increased student engagement but also substantially improved their understanding and retention of Thirukkural's moral teachings. The results suggest that multimedia tools can make traditional texts more approachable and relevant for today's students, helping them connect with complex classical material. A comparison of pre- and post-test scores between control and experimental groups further supports the effectiveness of this multimedia approach, as the experimental group showed significant gains in comprehension. Overall, the study demonstrates that cognitive multimedia learning can effectively address comprehension challenges, offering a valuable, modernized teaching technique for Tamil language and literature courses.

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