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THE ROLE OF ETNOPEDEGOGICAL APPROACH IN ENHANCING STUDENTS; WORKING MEMORY OF ENGLISH VOCABULARY

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Abstract

This descriptive qualitative research aims to analyze the role of etnopedagogical approach in supporting working memory strategies and vocabulary transfer to long-term memory in elementary school students. Data was collected thru in-depth interviews with teachers, classroom observations, and student recall interviews at an elementary school that integrates local Toraja culture into English language learning. The findings indicate that the etnopedagogical approach is highly effective due to three main themes: 1) Visual and Contextual Encoding, where images of local culture (such as Pa'piong and Tongkonan) serve as strong memory anchors; 2) Memory Reinforcement Thru Gamified Recall, where game-based activities and visual repetition facilitate transfer to long-term memory, and 3) Phonological challenges overcome with intensive Auditory Repetition. This study concludes that cultural relevance enhances, facilitates vocabulary encoding, and results in measurable memory retention.

Keywords: ethnopedology, working memory, long-term memory, vocabulary learning, cultural context.

INTRODUCTION

English learning at the elementary school level is fundamental in develop students' future language proficiency. Vocabulary mastery is a crucial component, as it supports all language skills including listening, speaking, reading, and writing. However, many students face difficulties in retaining vocabulary, particularly in transferring it from working memory to long-term memory.

Traditional teaching methods often emphasize rote memorization, which leads to short-term retention and rapid forgetting. From a cognitive perspective, meaningful and contextual learning plays a vital role in strengthening memory processes. Information that is

processed meaningfully is more likely to be stored in long-term memory.

The ethnological approach offers a solution by integrating local culture, traditions, and students' to connect new vocabulary with familiar contexts, making learning more meaningful and easier to remember. Ethnopedagogy is one method that may be able to close the gap between the emotional and intellectual components of learning. The process of integrating regional cultural values, customs, and knowledge into the teaching and learning process is known as ethnopedagogy (Suryana, 2019). English language learners can be introduced to and reinforced in vocabulary through

the use of folklore, traditional games, local cultural artifacts, or regional music. Learning becomes more relatable and simpler for kids to recall when they are able to relate new concepts to things they have heard about and cultures they are familiar with.

Neuropsychologically, emotionally, and culturally relevant meaning might reinforce the process of putting knowledge into long-term memory (Paivio, 2006; Nation, 2013). Therefore, integrating ethnopedagogy with neuropsycholinguistic ideas could enhance the effectiveness of vocabulary acquisition for elementary school students. In addition to fostering pride in local culture, this approach helps kids remember and use terminology from various languages. English language learning at the elementary school level lays the foundation for future language abilities. However, the fundamental challenge often lies in retaining new vocabulary in long-term memory. This is due to the limited use of conscious memory strategies and the ongoing cognitive development of students (Baddeley, 2012). Newly learned vocabulary must be processed thru working memory before being consolidated into long-term memory thru meaningful and contextual strategies.

The Ethnopedagogical approach offers a solution by integrating cultural values, customs, and local knowledge into the teaching and learning process. In the context of culturally rich Indonesia, ethnopedagogy can bridge the gap between the academic environment and students' everyday lives. This study aims to describe the specific role of this approach on cognitive mechanisms, namely the working memory strategies students use when receiving new vocabulary and indicators of the transfer of that vocabulary to long-term memory.

RESEARCH ELABORATIONS

A. Concept of Ethnopedagogical Approach

Etnopedagogy is a teaching approach that integrates local wisdom, cultural values, and indigenous knowledge into education. It emphasizes meaningful learning by connecting new knowledge with students' cultural backgrounds.

B. Working Memory in Learning

Working memory is a cognitive system responsible for temporarily storing and processing information. It plays an essential role in vocabulary acquisition but has limited capacity.

C. Long-Term Memory in Vocabulary Learning

Long-term memory stores information permanently. Effective encoding strategies such as repetition, association, and contextual learning help transfer vocabulary into long-term memory.

D Etnopedagogy and Memory Processes

Etnopedagogy supports memory by providing familiar contexts, enhancing meaningful learning, increasing student engagement and encouraging repeated retrieval.

The Etnopedagogical approach which integrates local Torajan culture such as Tongkonan and Pa'piong into English Vocabulary learning serves as an independent variable that serves as a meaningful, nature mnemonic bridge, significantly enhancing vocabulary encoding through cognitive mechanisms. Specifically, this approach facilitates dual-coding in working memory, where cultural (visual) images are paired with foreign (verbal) vocabulary, thereby strengthening the memory trace. Furthermore, vocabulary transfer to long-term memory is mediated by retrieval practice through game-based activities and spaced repetition,

which are empirically proven to be the most powerful strategies for memory consolidation. Although encoding meaning is high, remaining phonological challenges are addressed through intensive auditory repetition, strategy is holistic: combining cultural relevance for encoding meaning with structured repetition for mastery of language forms

RESEARCH METHOD

This study employs a descriptive qualitative design with a single case study approach to deeply explore the role of the ethnopedagogical approach in working memory and long-term memory strategies for elementary school students learning English vocabulary. Participants were selected thru purposive sampling, consisting of one English teacher who implements ethnopedagogy and 21 students involved in local culture-based learning. Data was collected using triangulation techniques, including classroom observation (to see the ethnopedagogical implementation), semi-structured interviews (with teachers), stimulated recall interviews (with students), and open-ended questionnaires (to test vocabulary retention). All collected data was then analyzed using Thematic Analysis to identify key patterns and themes that explain the relationship between cultural context and students' memory processes. Participants in this qualitative case study were selected using Purposive Sampling techniques to ensure the relevance and depth of the data. The main participant was one (1) elementary school English teacher who actively implemented the ethnopedagogical approach (integrating local Toraja culture) in vocabulary teaching. Additionally, the participants also included sixth-grade students taught by the same teacher, selected to represent a diverse range of academic abilities (high, medium, and low) and levels of participation, with the aim of gaining a comprehensive perspective on working memory strategies and vocabulary retention triggered by the local cultural context.

Data collection in this study used source triangulation and method triangulation to ensure the depth and validity of qualitative findings regarding the ethnopedagogical role in students' vocabulary memory. The techniques used include: Classroom Observation (using a checklist and field notes during two sessions) to record the implementation of cultural elements and memory activities; Semi-Structured Interviews with teachers to explore their motivation and teaching strategies; Stimulated Recall Interviews with selected students to directly understand their cognitive processes and working memory strategies; Open-Ended Questionnaires (administered as a follow-up after one week) to measure long-term memory retention.

Data analysis in this study was conducted thru systematic Thematic Analysis, where all collected qualitative data (teacher and student interview transcripts, observation notes, and questionnaire responses) were processed thru data triangulation to ensure the richness and validity of the findings. The analysis process follows key steps such as data familiarization, followed by initial coding to identify meaningful units related to ethnopedagogy, working memory, and long-term retention. These codes were then grouped into emerging themes, which were subsequently reviewed, defined, and reported narratively. The ultimate goal of this analysis is to establish and present clear patterns and relationships that explain the specific role of the ethnopedagogical approach to students' vocabulary memory strategies.

RESULTS

Three themes emerged from interview and reflection data

Theme 1. Implementation of Ethnopedagogical Elements by Teachers

Teachers effectively integrate ethnopedagogical elements through the use of visual media relevant to the students' environment, particularly Toraja culture.

- **Utilizing Local Cultural Images:** The main strategy is to use images of local Toraja culture as teaching materials. This includes typical objects, places, or foods (e.g., Tongkonan, buffalo, Pa'piong) to teach English vocabulary
- **Contextual Relevance:** The teacher emphasized that the role of local culture is very important because the material is "something they encounter frequently in their daily lives," which increases the appeal and relevance of the learning.

Strategy Games: Teachers consider playing games to be the most effective activity. This game involves randomly displaying images of local culture and asking students to recall related vocabulary, combining visualization with retrieval practice

Theme 2. Strategies for students' working Memory

Students' working memory strategies during ethnopedagogical learning are dominated by visual and association mechanisms.

- **Visual Encoding:** Students find it easier to remember vocabulary because they are "more interested in images" (Transcript) and images serve as direct memory triggers. For example, students associate the English word "house" with a picture of a Tongkonan (Observation Notes)
- **Reliance on Echoic Learning:** During the vocabulary acquisition phase, students exhibited a tendency toward echoic learning, meaning they repeated the words given by the teacher by mimicking the sounds, which indicates they were using the phonological loop in working memory.

Emotional Engagement: The use of fun games and cultural materials makes students "not feel bored" and "interested in learning" (Transcript), which effectively supports working memory to retain new information for longer.

Theme 3. Transferring vocabulary to Long- Term Memory

The transfer of vocabulary to long-term memory is proven to occur and is highly dependent on spaced repetition and cultural context.

- **Measurable Retention:** The teacher confirms that students "still remembered the words several days after the lesson." This was tested by showing the same images at the next meeting, and students "recalled" related vocabulary (Transcript). This demonstrates the success of memory consolidation.
- **Vocabulary Improvement:** The results of this strategy are evident in the students "increased" vocabulary (Transcript), which is an indicator of long-term retention success.
- **Dominance of Passive Repetition:** Although initial encoding was very active (visual), students' strategies for reinforcing long-term memory at home were still dominated by passive/motor repetition such as writing in a book or reading a book, indicating a need for explicit instruction on deeper elaboration strategies.

Theme 1 is Ethnopedagogy as a Catalyst for Encoding Working Memory The findings indicate that the use of local Toraja cultural images by teachers is very important in facilitating students' working memory. This happens through an efficient mechanism:

- **Dual-Coding:** The simultaneous use of local cultural images and foreign vocabulary pronunciation triggers Paivio's (1986) Dual-Coding Theory. Information is encoded in two separate storage systems (visual and verbal), which reinforce each other. When new vocabulary ('house' or 'buffalo') is directly associated with culturally familiar objects (Tongkonan or Tedong), the visual pathway becomes very strong and easily accessible
- **Relevance as a Mnemonic Bridge:** Local culture serves as a meaningful natural mnemonic device. Consistent with Contextual Learning (CTL), the finding that the material is "often encountered in daily life" makes the information relevant and emotionally valuable. This affective factor (students are "more interested" and "not bored") increases attention, which is a crucial prerequisite for information to be retained in working memory (Baddeley, 2012). This context-rich encoding (Elaborative Rehearsal) is superior to mere passive repetition (maintenance rehearsal).

Theme 2 is Consolidation of Long-Term Memory through Active Activities The transfer of vocabulary from working memory to long-term memory is supported by active strategies disguised as entertainment.

- **Retrieval Practice Through Games:** The activity of "playing games" (such as "guess the picture" which involves shuffling Toraja images) is the most effective strategy. This strategy forces students to actively retrieve vocabulary from memory (finding: students "recall"), a process empirically proven to be the most powerful mechanism for consolidating long-term memory (Roediger & Karpicke, 2006). Games transform memory testing into a fun activity.
- **Guided Spaced Repetition:** Memory testing (by showing the same images in subsequent sessions) is an implementation of spaced repetition. The students' success in recalling temporally separated vocabulary proves that the strong visual-cultural anchors created during encoding successfully kept the memory trace from fading from short-term memory.

Consolidation Strategy Gap: Although initial encoding was very active, questionnaire findings indicate that students' self-consolidation strategies (at home) are still dominated by motor/passive repetition (writing or reading). This indicates a gap, where teachers need to provide explicit instruction on deeper elaboration strategies, such as creating sentences or stories using that cultural vocabulary.

Theme 3 is Phonological Limitations and the Need for Auditory Repetition While ethnopedagogy excels at encoding meaning, findings regarding "word pronunciation" challenges reveal limitations of visual/contextual strategies.

- **Cognitive Gap:** Difficulty with pronunciation indicates that although the visual and semantic components are strongly encoded, the phonological (sound) component of the foreign language still requires specific practice.

The phonological loop component in working memory, responsible for processing sounds, requires a high level of maintenance rehearsal.

- Holistic Solution: The teacher's solution—"repeating over and over"—reinforces the need to integrate conventional drilling into an ethnopedagogical framework. This implies that the most successful strategies must be holistic: using cultural context to make vocabulary meaningful, and using intensive repetition to ensure the form (sound) of the vocabulary is mastered.

CONCLUSION

This qualitative research confirms that the ethnopedagogical approach plays a very important and effective role in improving the working memory and long-term memory strategies of elementary school students in English vocabulary learning. This role is realized thru two main cognitive mechanisms: Efficient Visual-Contextual Encoding, where the use of local Toraja cultural images (such as Tongkonan and Pa'piong) serves as a strong semantic and visual memory anchor, facilitating rapid encoding into working memory; and Active Memory Reinforcement, where structured visual recall-based "playing games" successfully activates retrieval practice. The students' ability to "recall" vocabulary after a time gap (retention findings) empirically validates that this strategy successfully transfers information from vulnerable working memory to stable long-term memory.

Although the ethnopedagogical effectiveness is very high in terms of meaning and retention, the main remaining challenge lies in the phonological aspect (vocabulary pronunciation), which is addressed by the teacher thru intensive auditory repetition. Therefore, this study concludes that optimal teaching strategies are holistic: combining cultural relevance to enhance motivation and meaning encoding, with structured repetition to reinforce language forms. The ethnopedagogical approach is not merely an educational strategy, but a cognitive strategy that successfully connects students' identities with foreign language acquisition, thus ensuring a more meaningful and effective vocabulary learning process.

APPENDIX

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