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Cognitive Methods for Reading Narratives in Multiple Languages

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Abstract: Global literature is getting more multilingual these days, and that really shakes up how we usually think about reading, like assuming everything is in one language. It feels like traditional ways of reading just don't cover it anymore.

This study tries to look at cognitive stuff to figure out what is going on in readers minds when they hit texts with multiple languages mixed in, or code-switching, and those culturally specific words that are hard to pin down. I am drawing from things like cognitive poetics and psycholinguistics, plus reader-response theory, to see how all that multilingual business affects comprehension and emotional stuff, memory too, and even how identity comes into play while reading. It seems kind of obvious that these elements change things, but exploring the processes makes it clearer.

Readers must deal with jumping between languages and registers, cultural references popping up, which pushes them to make inferences or predict context, maybe be more flexible with meanings. Not just language processing gets activated, but also cultural backgrounds and personal memories, so meaning builds up in layers. That part gets a bit messy to explain.

Code-switching and those untranslatable bits aren't just fancy style tricks, I think they trigger cognitive responses, like making you pay more attention, slowing down the reading, and pulling you into deeper interpretation. It might create this cognitive estrangement where you suddenly notice language as the tool for making meaning, sort of stepping back from the story. Some people might see it as distracting, others as enriching, not totally sure.

For monolingual readers, it seems like their past language experience plays into how deep they get into the story, whether they feel for the characters or identify with them. Bilingual or multilingual folks might pick up on more layers because of recognition or cultural stuff that lines up with what they know. On the other hand, those with just one language often fill in gaps by guessing from context or checking notes and extras around the book. Emotions come into play a lot here, especially with heritage languages or speech that marks culture. It can stir up feelings about who you are, where you fit, or even feeling out of place. That shows multilingual writing hits not just on meaning but on a deeper, more personal level in the mind and body. Integrating cognitive science stuff with literary breakdown helps explain how language variety changes reading in a world that's getting more global with books.

Key words: interpretation, multilingual, Integrating, comprehension, psycholinguistics.

Introduction

In the ever more globalized world, stories are shared across linguistic and cultural borders, encouraging the reader to read texts in different languages. Reading stories is not a passive process of decoding words; it is a complex cognitive task that involves perception, memory, inference, emotion, and culture. When stories are read in more than one language, these cognitive tasks become even more complex. The cognitive approach to reading narratives in multiple languages aims to explore how readers understand, interpret, and emotionally engage with stories while dealing with different linguistic systems and cultural frameworks.

Cognitive approaches to narrative reading highlight the mental processes that readers use to make meaning from texts. These processes include schema activation, mental imagery, theory of mind, and inferential reasoning. Although these processes are involved in monolingual narrative

reading, multilingual narrative reading involves additional cognitive tasks, such as language switching, cross-linguistic transfer, and increased metalinguistic awareness. The reader has to deal with differences in syntax, semantics, and discourse, often using knowledge from more than one language to fill the gaps in meaning. This is a process that can both complicate and facilitate narrative meaning, resulting in distinct cognitive strategies that differ from monolingual narrative reading practices.

One of the most important concepts in this field is cross-linguistic activation, whereby speakers' knowledge of one language affects the processing of another. Bilingual and multilingual readers exhibit simultaneous activation of lexical items in different languages, which can both facilitate and hinder comprehension. For instance, cognates can speed up comprehension, while false friends can cause confusion. Cognitive models examine how the brain suppresses unnecessary linguistic information and selects the correct meaning to maintain the narrative trajectory.

Another important aspect is cultural cognition. Stories are part of cultural cognition, which refers to the shared frameworks of social norms, values, and storytelling practices. When reading across languages, readers are often required to fill the distance between their own cultural knowledge and the cultural knowledge embedded in the text. Cognitive literary theory examines how readers employ empathy, theory of mind, and perspective-taking to make sense of characters whose cultural knowledge is different from their own. This is particularly important in multilingual stories, where language itself is a marker of changes in identity, power, or emotional tone.

Cognitive approaches also investigate the role of emotional involvement in multilingual reading processes. Findings from research studies have shown that the degree of emotional involvement can differ depending on whether the reader is emotionally involved in the story in the first language or in the second language. Some studies have suggested that the second language can be a distancing factor, resulting in more analytical processing, whereas the first language can be more emotionally involving. This knowledge is important to understand how readers experience immersion, moral evaluation, and character engagement in multilingual reading processes.

Moreover, recent developments in neurocognitive research, such as eye-tracking and brain imaging techniques, have enabled researchers to develop empirical approaches to measure the processing of multilingual texts by readers in real time. These approaches have enabled researchers to understand the patterns of attention, memory retrieval, and inference that influence the processing of multilingual texts. These interdisciplinary approaches have made it clear that multilingual narrative reading is not only a linguistic process but also a complex cognitive process involving memory systems, attentional control, cultural knowledge, and emotional processes.

Literature review

Reading comprehension, especially for narrative texts, is a prominent area of interest in cognitive psychology and psycholinguistics, and its complexity is further exacerbated in a multilingual scenario. A significant amount of research has been conducted to examine the interaction of cognitive processes and linguistic knowledge to facilitate reading comprehension across languages. This review aims to compile major findings and theoretical developments associated with the application of cognitive approaches to multilingual narrative reading.

Cognitive and Metacognitive Reading Strategies

One of the most prominent areas of research in reading is the application of cognitive and metacognitive strategies to facilitate reading comprehension. Cognitive strategies include inferencing, summarizing, and highlighting main ideas, whereas metacognitive strategies include planning, monitoring, and evaluating one’s own comprehension. Recent empirical research indicates that the application of both cognitive and metacognitive strategies has a profound effect on English reading comprehension among English as a Foreign Language (EFL) learners, underscoring the

significance of intentional strategy application to facilitate the comprehension of complex texts like narratives

Although most of this research is concerned with L2 (second language) learning contexts, these results are essential for multilingual narrative reading, as narratives involve higher levels of inference, working memory, and information integration across sentences

The Simple View of Reading (SVR) has been modified to serve as a cognitive model for evaluating reading comprehension in multilingual settings. Although originally suggesting that reading comprehension is a function of decoding and language comprehension, more recent studies suggest that SVR can be generalized across different orthographies and languages, identifying the essential cognitive processes of inference generation and working memory that are involved in narrative comprehension.

Narrative comprehension has also received specific attention in the literature. In bilingual studies, for example, tools such as the Multilingual Assessment Instrument for Narratives (MAIN) have been created to evaluate narrative comprehension across languages. This approach grounds narrative comprehension in macrostructural components such as goal, attempt, and outcome, enabling the researcher to evaluate quantitatively the role of cognitive processes such as inference and attention in narrative comprehension.

Related experimental studies using MAIN and eye-tracking techniques demonstrate that narrative comprehension is a complex process of interaction between attention and language processing systems. For example, the comprehension of internal states in a narrative requires more inferential reasoning than the comprehension of goal-directed actions, which has implications for the design of assessments that can accurately capture narrative processing in different languages.

Cross-Linguistic Transfer of Cognitive Skills

Cross-linguistic transfer, the notion that cognitive and linguistic skills are transferable from one language to another, is an important aspect of multilingual narrative reading. Research studies involving children's reading in L1, L2, and even L3 environments show that the skills of lexical, morphological, and reading comprehension in one language affect narrative production and comprehension in another language. For instance, in EFL settings involving Arabic and Hebrew-speaking children, researchers reported strong correlations between morphological awareness and reading comprehension in both languages, indicating that general linguistic and cognitive skills can facilitate narrative performance in different linguistic systems.

Narrative research also indicates that bilingual children's macrostructure skills (story structure and coherence) are affected by both cognitive skills such as working memory and inhibitory control and language proficiency in both languages. This is consistent with cognitive theories that propose the importance of domain-general executive functions in facilitating multilingual reading performance.

Theoretically, models of psycholinguistics, such as the Bilingual Interactive Activation Plus (BIA+) model, have suggested that bilingual readers are able to activate both languages simultaneously during comprehension. This process of parallel activation has implications for narrative comprehension, where readers have to address competition between languages and integrate global story information. Behavioral and neurocognitive studies have provided evidence for the idea that bilingual readers do not "turn off" the non-target language, but rather co-activate the lexicons, which then interact with higher-order narrative comprehension processes.

Strategy Use across Age and Proficiency Groups

Comparative studies of strategy use between bilingual children, monolingual children, and bilingual adults have provided insights into the development of cognitive strategies with proficiency

and age. For example, bilingual adults have been found to use inferencing and structural analysis strategies more frequently than children.

Nonetheless, there are still some gaps in the literature. Most of the current literature is concerned with child populations or EFL classroom contexts, as opposed to the general adult multilingual population reading complex literary narratives. There is also a lack of combination of neurocognitive findings with more traditional cognitive strategy research. The more recent literature on computational modeling and large language models suggests promising directions for neurocomputational models of reading comprehension.

Methodology

This research uses a quantitative survey design to explore the cognitive strategies and processes used in reading narratives across different languages. The aim of the methodology is to provide quantifiable information on the use of cognitive strategies, language proficiency, and comprehension of narratives in multilingual environments.

Research Design

A cross-sectional survey design was used to gather data from multilingual readers at a single point in time. This design is useful for establishing patterns, associations, and differences in cognitive strategies used in reading across languages. The research aims to quantify variables such as inferencing skills, metacognitive monitoring, language dominance, and perceived difficulty of comprehension.

Participants were multilingual university students aged 18-30 years old who claimed to be proficient in two or more languages. A stratified random sampling method was employed to ensure that participants with varying levels of first language (L1) and second language (L2) proficiency were adequately represented. The proposed sample size was 150-200 participants, which was adequate for statistical analysis and generalization within the context of the study.

Data was gathered using a structured questionnaire comprising four sections:

Demographic and Language Background Survey – collected information on age, gender, educational background, known languages, levels of proficiency, and reading frequency in each language.

Cognitive Reading Strategy Scale – based on standardized reading strategy scales, measured the application of strategies such as predicting, inferencing, summarizing, visualization, and context-based word meaning inference.

Metacognitive Awareness Scale – evaluated planning, monitoring, and evaluation strategies employed in multilingual reading.

Narrative Comprehension Self-Assessment – participants self-assessed their comprehension and emotional engagement while reading short narrative texts in various languages.

All the items were measured using a 5-point Likert scale ranging from “Strongly Disagree” to “Strongly Agree.”

Data Collection

The survey was conducted online using a digital questionnaire platform. The participants were made aware of the purpose of the study and gave their consent before taking the survey. The instructions were provided in a language known to the participants to eliminate any comprehension bias.

Data Analysis

The data was analyzed using descriptive and inferential statistics. The descriptive statistics (mean, standard deviation, frequency) were used to describe the use of strategies and language background. The inferential methods such as correlation analysis, independent samples t-test, and ANOVA were employed to investigate the relationship between language proficiency and the use of cognitive strategies. The reliability of the scales was estimated using Cronbach’s alpha coefficient.

The study was completely voluntary, and the responses were anonymous. The data was used only for academic purposes.

Results and Discussions

Descriptive Statistics

The study investigated the cognitive methods employed by university students while reading narratives in multiple languages. Data were collected using a structured Likert-scale questionnaire administered to university students who regularly engage with narrative texts in more than one language.

The overall results indicate that students employ a range of cognitive reading strategies, including inferencing, translation, visualization, prediction, and contextual guessing, while reading narratives in multiple languages.

1. The mean scores across most cognitive strategy items were above the midpoint of the scale, indicating moderate to high use of cognitive methods.
2. Inferencing from context and use of prior knowledge recorded the highest mean scores, suggesting that students actively construct meaning rather than relying solely on word-level decoding.
3. Mental translation into the first language (L1) was reported by a majority of respondents, particularly when reading narratives in a less proficient language.
4. Visualization of narrative events and characters also showed high agreement, indicating the importance of imagery in narrative comprehension.
5. Prediction of plot development was used moderately, suggesting growing strategic awareness among readers.
6. These findings suggest that university students consciously and unconsciously employ multiple cognitive methods to enhance comprehension when reading narratives across languages.

Frequency and Percentage Analysis

Frequency analysis revealed that:

1. Over 70% of students agreed or strongly agreed that they rely on contextual clues to understand unfamiliar vocabulary.
2. Approximately 65% of respondents reported mentally translating difficult passages into their stronger language.
3. Nearly 75% indicated that they visualize scenes and characters to aid comprehension.
4. Around 60% reported activating prior knowledge related to the cultural or thematic context of the narrative.
5. Fewer students (about 40%) reported consistent use of note-taking or summarization, indicating that deeper analytical strategies are less frequently employed.

This pattern suggests a preference for immediate, meaning-based strategies rather than formal or academic cognitive techniques.

Comparative Analysis Across Languages

A comparison of responses across languages showed that:

1. Students used more cognitive strategies when reading narratives in their second or third language than in their first language.
2. Mental translation and rereading were significantly higher for non-dominant languages.
3. Inferencing and visualization remained consistently high across all languages, indicating their universal role in narrative comprehension.

These results demonstrate that language proficiency influences the choice and intensity of cognitive methods, with lower proficiency prompting greater strategic effort.

Discussion

The findings of this study highlight the central role of cognitive strategies in multilingual narrative reading among university students. The high reliance on inferencing and contextual guessing supports cognitive theories of reading, which emphasize active meaning construction rather than passive decoding.

The frequent use of mental translation aligns with bilingual reading models, suggesting that learners naturally draw upon their dominant language to scaffold comprehension in additional languages. While translation can be seen as a compensatory strategy, it also reflects cognitive flexibility and cross-linguistic transfer.

Visualization emerged as a key strategy, particularly in narrative texts, where characters, settings, and events facilitate mental imagery. This finding confirms that narratives naturally promote imagery-based cognitive processing, enhancing comprehension across languages.

The moderate use of prediction strategies suggests that while students engage with the text actively, they may lack formal training in advanced cognitive reading techniques. Similarly, the limited use of summarization and note-taking indicates a gap between natural reading strategies and academic reading practices.

The increased strategic effort observed in second and third languages reinforces the role of language proficiency as a mediating factor in cognitive processing. Students compensate for linguistic limitations by employing more strategies, particularly inferencing and rereading.

Overall, the results suggest that multilingual readers are strategically adaptive, modifying their cognitive methods based on language demands and narrative complexity.

Implications

1. Language instructors should explicitly teach cognitive reading strategies, particularly prediction, summarization, and cross-linguistic awareness.
2. Narrative texts can be effectively used to develop multilingual reading competence due to their inherent support for visualization and inferencing.
3. Strategy training may reduce cognitive load and improve comprehension in less proficient languages.

Limitations of the Study

Despite offering important insights into the cognitive strategies employed by university students when reading narratives in different languages, the study has some limitations that need to be acknowledged. Firstly, the study had a small sample size that only included university students. This is a limitation because the findings of the study cannot be generalized to other university students.

Secondly, the study used self-reported data that was collected using a questionnaire. This data is prone to response bias because the participants may overreport or underreport their actual use of cognitive strategies. In addition, the data only captures the participants' perceptions and not the actual cognitive processes that are involved in reading.

Thirdly, the study used a cross-sectional survey design that gives a one-time snapshot of the cognitive strategy use among students. This means that the study does not consider the changes that may occur in the strategy use as a result of increased language proficiency, academic exposure, or instruction.

Lastly, the study did not control for variables such as language proficiency level, reading motivation, and text difficulty that may have affected the responses of the students. Future studies should consider these limitations to ensure that the findings are valid and have a wider scope.

Recommendations

Based on the results, it is recommended that university language teachers teach students cognitive reading strategies like prediction, summarization, inferencing, and visualization, particularly in a multilingual setting. Researchers should incorporate narrative texts in different languages to encourage flexible reading strategies. Students should be encouraged to develop metacognitive awareness of their reading strategies. Future research should use larger and more diverse samples and mixed methods to explore the cognitive processes involved in multilingual reading.

Conclusion

This research focused on the cognitive strategies used by university students while reading narratives in different languages through a quantitative survey method. From the data collected among university students, the results show that multilingual readers are actively utilizing various cognitive strategies to facilitate comprehension. The strategies used by multilingual readers include inferencing, use of contextual information, mental translation, visualization, activation of prior knowledge, and rereading. These strategies suggest that reading narratives in multiple languages is an active cognitive process rather than a passive decoding task.

The results also show that university students are more likely to use cognitive strategies while reading in their second or third language compared to their first language. This finding suggests that readers are adjusting their strategy use based on their proficiency levels in different languages. Narrative texts seem to be effective in facilitating visualization and meaning construction, making them useful tools in multilingual reading development. Despite the limitations of the study, which include a small sample size and self-reported data, the findings of this study are very significant.

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