Cognitive Approaches to Translation Activity

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Abstract

The study of the translation process from a cognitive approach has gained more popularity with the advances of technology that facilitates such studies. Translog, eye-tracing and keystrokes are some of the ways in which researchers can glean information about what goes on in the translators' mind before, during and after the translation activity. However, compared to the study of interpreting, the translation process might still be behind in this prospect.

Using the PSALSAR framework and The PRISMA methodology, this systematic literature review (SLR) aims to explore the various techniques available to researchers to investigate the translation process and take a closer look at what happens inside the translators' mind, and how translators deal with various psychological demands associated with the translation process.

Keywords: Cognitive Approaches, Translation Process, PRISMA

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1. Introduction and Background

1.1 Translation Processes

Translation is a complex activity that involves transferring the meaning from one language into another. From a cognitive point of view, translation entails the comprehension of the meaning in the source text in order to accurately reproduce the same meaning into the target text. There are different factors that influence this activity including, translators' proficiency level of both the source and target languages, the degree of complexity in the source text, and other external factors such as the working conditions in which the translators work. Cognitive approaches to translation allow researchers to investigate the mental processes that take place inside the mind of the translator. Such as the decision-making process, choosing from various alternative translations in addition to managing stress during the translation process. Technological advances facilitated cognitive research of translation through the use of *Translog*, eye tracking, and keystrokes by translators. In addition to other traditional methods to explore the workings of the translators' mind such as Think Aloud Protocols, and retrospective interviews. The measurement of cognitive load is also used to investigate the psychological demands placed on translators during the translation activity, and how translators deal with such demands.

This paper aims to perform a systematic literature review to survey research articles published (Jan 2015- Feb 2024) within the domain of cognitive approaches in the following databases: web of Science, Scopus, and Google Scholar. The purpose of such rigours survey is to answer the following questions:

1.2 Research Questions

1. What cognitive research methods are employed to investigate the translation process?
2. Which skills and capabilities should translators exhibit when they translate a source language text into a target language?
3. Which strategies are used by translators to overcome challenges that are commonly experienced during translation processes? In particular how do translators cope with cognitive load?

2. Cognitive Models to Translation

Cognitive models to translation focus on understanding the mental processes involved in translation, emphasizing the non-linear nature of the process, the use of specific strategies and the role of memory and information storage [2, 13]. One such theory is Cognitive Load Theory (CLT) which focuses on the amount of mental effort required to complete a task; in this case translation. It postulates that individuals (in this case translators) have limited capacity for processing information and if this capacity is exceeded cognitive overload occurs. Such overload would lead to decreased performance. In the context of translation activity, CLT can be used to investigate how translators manage cognitive demands of the task of translation [13]. Given that the

translation process is a complex process, many factors contribute to the cognitive load. The level of difficulty of the source text; highly specialized texts such as legal and medical texts may be challenging to translators. Furthermore, other studies suggest the leading factors to translation difficulty, for example, over use of idiomatic expressions and specialized terms, non-literalness, text type, and word frequency, among other contributing factors [1, 8].

The existing research on cognitive translation focused mainly on the technological tools which can be used to track the translation process. For example, Carls' research on *Translog*, which is a software used to record user activity data in empirical translation studies [3].

Cognitive load theory bases the elements of human cognitive nature and particularly the limitations of working memory in capacity and time [12]. There are three types of cognitive load, and they are intrinsic load, extraneous load, germane load. Intrinsic load arises from learning tasks while the extraneous load emanates from the instructional design and the germane load pertains to the number of cognitive resources which learners have access to [12].

3. Cognitive Load Measurement

Cognitive load and difficulty in translation have been explored via various external measurements, such as subjective rating [12]. In this methodology, behavioural and physiological measures are used to analyse cognitive efforts and translation difficulty. Although there is a general assumption that subjects in a study can introspect on the cognitive processes and face no challenges in the assigning of numerical values to imposed cognitive load, little information is known concerning the way the visual features of rating scales impact the measurement of cognitive load [12].

4. Methodology

The research will follow a systematic literature review of materials on the topic. The study will be based on a PSALSAR framework, which includes defining the research protocol, defining search terms and databases to be searched, appraisal (criteria for inclusion and exclusion of literature), synthesis (extracting and categorizing data), analysis (narrating the results), and reporting the findings to the public (see Fig. 1).

The PRISMA methodology will be followed. PRISMA flowchart will be developed alongside the search results obtained using the search terms. The search terms include "Cognitive Approach", "Cognitive load measurement", and "Cognitive processes in translation", which will be combined using Boolean operators such as OR and appropriately. The search limits include the year of search (such as 10 years), and full-text articles only. Several articles will be identified, screened, and a number of them will be included in the analysis after following the eligibility criteria. Databases include Web of Sciences, Scopus, and Google Scholar.

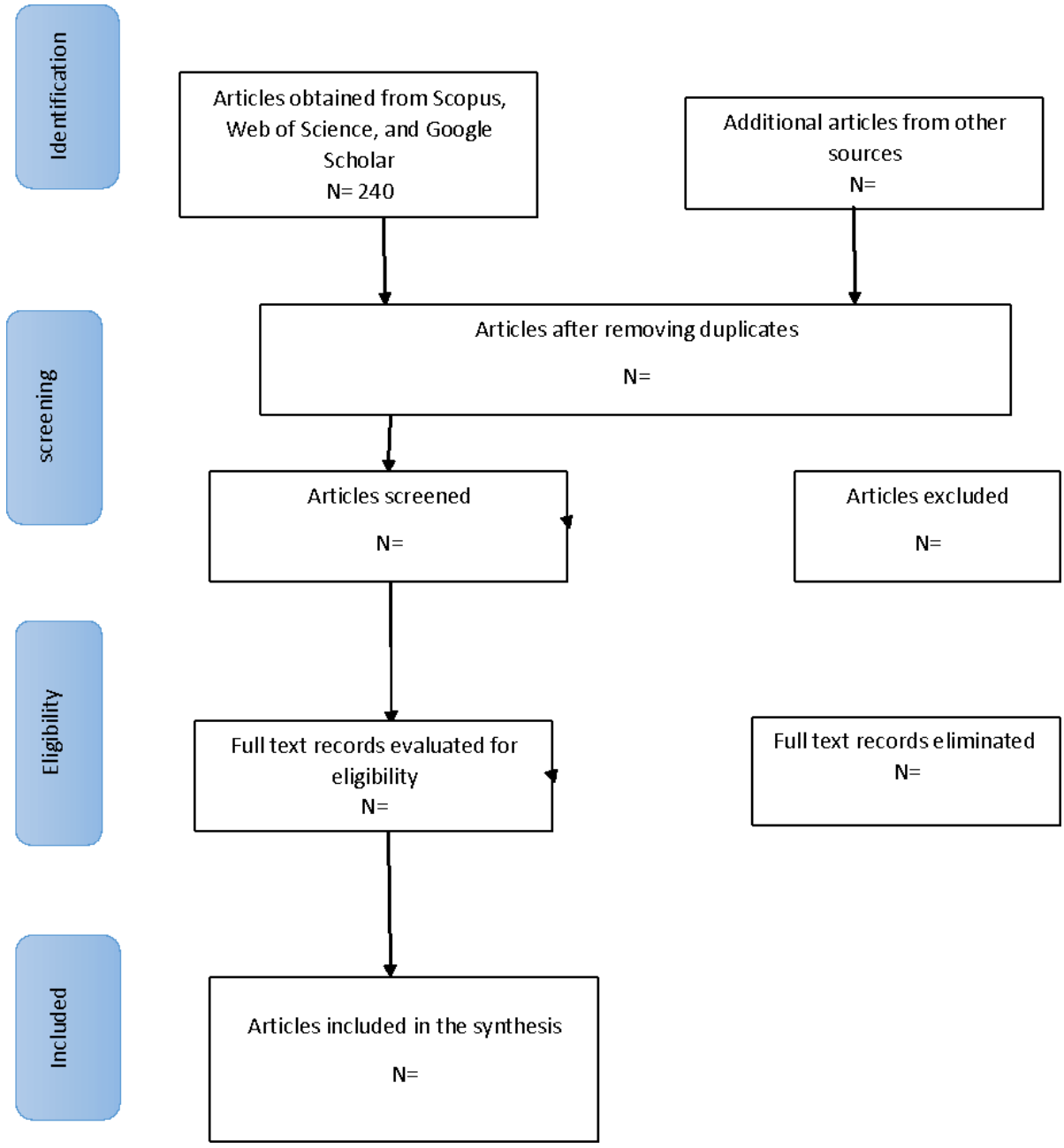

Fig. 1 Showing PRISMA Diagram

5. Conclusion

The study focuses on cognitive approaches to the translation process, a topic which has received little attention in the scholarly world. Researchers in the past explored various aspects of translation, such as the cultural aspects, and the challenges that translators face in the process.
However, there is little research on the cognitive processes involved.

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