Role of Individual Differences in Translator Training

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Abstract
Translation is a complex process in which individual differences may impact students’ translation performance. However, there needs to be more empirical research on this topic. This study aims to investigate how affective and cognitive factors are related to the translation speed and quality of student translators through bibliometric analysis. The study focuses on the following four factors: self-efficacy, anxiety, language proficiency, and working memory, which are highly associated with translation performance. Among them, self-efficacy and anxiety were defined as affective factors, while language proficiency and working memory as cognitive factors. The results show that the four factors played an essential role in translation. The study implies that great attention shall pay to the role of individual differences in translator training.

Key Words: self-efficacy; anxiety; language proficiency; working memory; translator training

1. Introduction
In recent years, it has been widely accepted that individual differences like affective and cognitive factors may influence task performance in educational contexts and the industry. However, the extent to which individual factors influence translation performance has yet to be scientifically studied. In the current study, translation is used as an umbrella term. There is a need to identify tenable predictors of translation success to enlighten translator training with research findings (Zhai et al., 2013; Chen, 2020). There are also additional reasons why such attempts shall be made, including developing curricula to enhance students’ translation performance. Little is known about the critical individual factors for translation teaching and their working mechanism. As a result, more efforts shall be made to identify the significant determinants of translation performance by looking at various individual differences, which may contribute to training qualified translators to meet globalization’s demand.

The study is a first step toward understanding how translation performance is related to individual differences. A wide range of individual variables have been discussed over the past decades. Rosiers et al. (2011), for example, classified such variables into cognitive variables (about learning styles), affective variables (related to motivation, attitudes, and language anxiety), and personality variables (as illustrated by extraversion or ego permeability). The role of affective and attitudinal factors in translation has lately attracted increasing attention within process-oriented translation research (Laukkanen, 1996). Therefore, the study focused on four individual factors: self-efficacy, anxiety, language proficiency, and working memory, with the first two being affective variables and the other two being cognitive factors. The structure of the paper is as follows: First, the data source and research method were introduced. Then, efforts were made to discuss the research results and findings. Finally, implications for translator training were discussed.

2. Research Method and Data Source
The study employed bibliometric analysis, a quantitative study of bibliographic materials that provides an overview of a research field, which can be classified by papers, authors, and journals (Merigó & Yang, 2017). The study extracted data from the core collection of the Web of Science. This website provides subscription-based access to multiple databases and comprehensive citation data for various academic disciplines. The following words were used to choose relevant articles from the Web of Science: (“translate*” OR “interpret*”) AND (“language proficiency” OR “working memory” OR “self-efficacy” OR “anxiety”). The first attempt at the subject search yielded 547 results. In order to improve the relevancy of the retrieval results, manual intervention was conducted to strictly narrow the topic to the four factors to facilitate subsequent analysis. Seventy-two results were returned the second time. Then, irrelevant articles were deleted after a detailed reading of their abstract, and only 24 highly relevant articles were left for analysis in the study.

3. Results and Discussion
Empirical studies reviewed in the current study investigated the influence of either cognitive or affective
variables (see Table 1 for details). Reviewing such studies can help us better understand their influence on task performance.

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Topic</th>
<th>No. of Articles</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Working memory</td>
<td>9</td>
</tr>
<tr>
<td>2</td>
<td>Language proficiency</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>Self-efficacy</td>
<td>8</td>
</tr>
<tr>
<td>4</td>
<td>Anxiety</td>
<td>6</td>
</tr>
</tbody>
</table>

This table describes the number of articles that contain any of the four factors. Specifically, there are nine articles about working memory, three about language proficiency, eight about self-efficacy, and six about anxiety. Of them, two articles involved two factors, respectively. These 24 articles mainly discussed the role of a factor in the translation process, its implications for translator training, and other miscellaneous information. Relevant studies will be discussed in detail in the following sections.

### 3.1 Working Memory

Working memory is defined as “a multi-component system responsible for active information maintenance in the face of continuing processing and distraction” (Conway et al., 2005). As a cognitive system, it metaphorically refers to a mental workspace or a piece of mental jotting paper, with two separate functions: (1) a temporary storage function analogous to short-term memory; (2) an information-processing function that controls the flow of information between the short-term storage systems and long-term memory (Baddeley & Hitch, 1974). Individual differences as a function of working memory capacity are often relevant for more complex tasks (Miyake et al., 1994). This line of research focuses on whether working memory in the translators’ first and second languages is related to their translation speed and quality.

In the cognitive approach to translation studies, verbal working memory has been considered a fundamental construct. Many scholars have explored the relationship between verbal working memory and translation performance (Zhang, 2011). They assumed that the translator first decoded the source-language expression and then translated it into the target language quickly (e.g., Gile, 1997). Students with a more extensive vocabulary performed better than those with a smaller vocabulary. According to existing research results, a conclusion can be drawn that working memory is positively, rather than negatively, correlated with translation performance. Working memory storage span and processing capacity are highly associated with translation speed and quality. The higher the working memory capacity, the better the translation performance. Extra verbal working memory training in both primary and second languages can enhance students’ translation competence.

### 3.2 Language Proficiency

Language proficiency herein is a measure of our ability to communicate in a foreign language rather than in our mother tongue. Professionals who are competent in a foreign language are more likely to be employed. Previous studies have confirmed that proficiency in a foreign language is related to translation performance. The translating task requires a sizeable cognitive processing capacity and an excellent knowledge of at least two languages (although language skill does not guarantee quality or success by itself). It is essential for trainee translators to feel confident that their language proficiency will allow them to perform the translation task adequately. This is particularly relevant in undergraduate courses, where most student translators are far from being perfect bilinguals and, therefore, may need more confidence in their translation abilities due to flaws in their foreign language proficiency. Being highly proficient in a foreign language not only reflects aptitude in a competence that is essential for the task but is also part of a previous learning experience that has been successful. Past experience is considered one of the most important sources of self-efficacy (Bandura, 1997). This is because, to build self-efficacy, students internalize the characteristics of successful or failing experiences as one of the primary sources of success confirmation in the task (Wiedenbeck, 2005).

Taken together, these data point to the role of language proficiency as a critical sub-skill for translation. Alternatively, language proficiency development is the cornerstone of translator education, and its incorporation into the curriculum is critical to program success.

### 3.3 Self-efficacy

Self-efficacy is a psychological trait that can potentially improve learning and performance (Razmi et al., 2020). Bandura (1986) defined self-efficacy as beliefs in people’s capacities to plan and execute the courses of action necessary to achieve a particular goal. That means one’s attention and dedication to completing a task is governed by their positive mental about their ability to complete that activity successfully. In recent years, self-efficacy has also been introduced into translation research. It is known that translation is a complicated cognitive task that
requires a wide range of abilities and involves affective and attitudinal aspects (Laukkanen, 1996), apart from cognitive and emotional experiences. Although some disciplines occasionally highlight it, self-efficacy is not widely included in the variables that can predict success in translation. It must be pointed out that relevant research has generally found a positive link between self-efficacy and translation (e.g., Stajkovic & Luthans, 1998). Self-efficacy is also one of the most important predictors of great competitiveness in a career. However, individuals’ belief alone is insufficient for success because mastery of specialized abilities is required (among which second-language competence stands out).

To sum up, self-efficacy can be cultivated in daily life, and it positively influences translation performance. Undoubtedly, the variable has significant implications for translation teaching.

3.4 Anxiety

There is more to becoming a good translator than meets the eye. The necessity of cognitive abilities in a translator’s job goes without saying. However, psycho-affective and personality-related elements have been overlooked in both theoretical and practical considerations. The literature on anxiety in general and anxiety in language learning, in particular, is extensive, but this is not the case for research on the acquisition of translation competence (Arnaiz-Castro & Pérez-Luzardo Díaz, 2016). In recent years, researchers have begun to pay greater attention to the role of anxiety or stress in translation because it can potentially interfere with the translation task (Alexieva, 1993).

Many professionals have investigated anxiety at a general level. However, the study explored anxiety in a specific context, namely, foreign language anxiety. Foreign language anxiety is defined as “a distinct complex of self-perceptions, beliefs, feelings, and behaviors related to classroom language learning arising from the uniqueness of the language learning process” (Horwitz, 1986). Several studies have investigated the stress or anxiety that arises in translation. For example, students’ foreign language anxiety negatively correlated with their mid-term and final achievement in translation courses (Chiang, 2010). Correlation analysis results suggested that younger would-be translators suffered from higher anxiety levels and that students with higher marks tended to have lower anxiety levels (Arnaiz-Castro & Pérez-Luzardo Díaz, 2016).

Therefore, it is evident that foreign language anxiety or stress generally has a negative impact on translation performance. Considering the relation between anxiety and translation performance, it is necessary to pay great attention to help students control their anxiety level in translator training.

4. Conclusion

We carried out a bibliometric analysis of empirical translation research that deals with any of the four constructs (i.e., self-efficacy, anxiety, language proficiency, and working memory). The results show that these four predictors played a considerable role in translation tasks and were strong predictors of translation success. The large span of working memory, high language proficiency, high self-efficacy, and low anxiety could contribute to good translation performance. This could provide valuable information for teachers, students, and related researchers. Corresponding measures shall be taken by translator trainers to enhance student’s working memory, language proficiency, and self-efficacy while reducing their anxiety.

The number of empirical studies reviewed in the current study was relatively small, which is not conducive to drawing a generalizable conclusion. Besides, a visualization tool can present the research results vividly. More attention should be paid to this line of research.

References