Awareness of Linguistic Ambiguity and Translator Training

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Abstract
As a first step toward understanding the relationship between conscious awareness of linguistic knowledge and translation performance, this study investigated whether enhancement of trainee translators’ awareness of linguistic ambiguity helped them increase their awareness of ambiguity in translation and whether the effects were correlated with the participants’ language proficiency. Forty-six first-year undergraduate students from a translation program received a multiple-choice pretest, a 20-minute awareness-raising lecture focusing on linguistic ambiguity immediately after the pretest, and the same multiple-choice posttest a week later. The results indicated that the participants detected more items with linguistic ambiguity in translation after their awareness of linguistic ambiguity had been increased. However, the participants also judged a higher number of unambiguous sentences as ambiguous in the posttest. Additionally, the increases or decreases in participants’ scores in the posttest were not correlated with their English proficiency. The findings could be accounted for by Schmidt’s Noticing Hypothesis. The implications for the curriculum design of translation programs as well as directions for future studies are discussed.

Keywords
ambiguity, trainee translator, translation program, Noticing Hypothesis, curriculum design

Introduction
Translators and interpreters are language professionals, and they must be attentive to both the source language and the target language. Hence, knowledge of linguistics is expected to be an essential component of a translator/interpreter training program (hereafter referred to as translation program). The view is echoed by translation trainees themselves. For instance, Erton and Tanbi (2016) conducted two surveys to inquire how translation program students perceived the linguistics courses they attended. The results indicated that 83% of the students were aware of the fact that linguistics theories played a role in the translation process. A similar view is found in Sabra (2018), as well. Among the courses offered by the three translation programs included in Sabra’s (2018) study, 9% to 21% of the courses were about linguistics and 73% of the translators-to-be in the study reported that the knowledge they acquired in the linguistics courses was very helpful in translation. In short, when this issue was viewed from students’ perspective, students agreed that knowledge of linguistics played a significant role in the translation process. However, few studies have directly explored how increases in awareness of linguistic knowledge among trainee translators might influence their translation performance. Therefore, the current study especially focuses on how raising conscious awareness of linguistic ambiguity improves trainee translators’ sensitivity to detect it in translation. The organization of the paper is as follows. The interplay among conscious awareness, language learning, and language proficiency is reviewed in section 1.1. Section 1.2 reviews the literature pertaining to the role of linguistic knowledge in translation performance. The research purpose and the research questions are presented in section 1.3. Sections 2 and 3 respectively report the methods and the results of the study. A discussion based on the results is provided in section 4.

Interplay Among Noticing, Language Proficiency and Language Learning
The investigation of the relationship between the conscious awareness of linguistic knowledge and translation performance is theoretically grounded in the Noticing Hypothesis proposed by Schmidt (1990, 1994, 2001, 2010). Since the influential studies from Schmidt, the role of noticing has been incorporated in several hypotheses of language

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learning, such as the Interaction Hypothesis (Long, 1996), Output Hypothesis (Swain, 1995, 2005), and model of input, interaction, and learning (Gass & Mackey, 2006). According to Schmidt (1990, 1994, 2001, 2010), for language learning to take place, learners must pay conscious attention to the linguistic features in the input. That is, language learning does not happen unless the linguistic features are noticed. The effects of noticing have been reported to be effective in learning vocabulary (Schmidt, 1994), grammar (Ellis, 2007), pronunciation (Kivistö-de Souza, 2015), and pragmatics (Chen & Liu, 2021; Schmidt, 1993). It is generally agreed that more noticing/conscious awareness of the language teaching/learning process will lead to great learning gains (Marsden & Chen, 2011; Norris & Ortega, 2000; Williams, 2005). Given the influential effects of noticing on different aspects of language learning, it is expected that increased awareness of linguistic knowledge would be likely to benefit translation trainees’ translation performance.

One problem that has been researched by some scholars is the connection between degree of noticing and L2 learners’ language proficiency. However, the findings seem to be inconclusive (Ünlü, 2015). Some studies have found a positive correlation between noticing and proficiency. For example, Qi and Lapkin (2001) conducted a case study to explore the role of noticing in a three-stage writing task involving pretest, reformulation, and posttest with two Mandarin-speaking learners at different proficiency levels. The findings indicated that proficiency had a strong impact on the quality of noticing, for the more proficient learner produced more language-related episodes (LREs) than did the less proficient learner (N=16). Hanaoka (2007) recruited 17 advanced learners and 20 intermediate learners in a four-stage writing task involving pretest, native speaker model, immediate posttest, and delayed posttest. The findings also demonstrated that the more-proficient learners tended to notice a significantly greater number of features than did the less-proficient learners when comparing their original writing with two native speaker models. On the other hand, Takahashi (2005) examined the effects of motivation and proficiency on the noticing of pragmalinguistic features. Eighty Japanese learners of English completed a motivation questionnaire and a proficiency test before the experiment began. Then they were asked to engage in a noticing-the-gap activity to compare native and nonnative speakers’ requests in roleplay transcripts. The learners’ noticing protocols were collected via retrospection and assessed in terms of request head acts and non-request features. The correlational analysis showed that motivation was positively related to attention and awareness when these learners were processing language input. However, no significant relationship was found between learners’ pragmalinguistic awareness and language proficiency.

Translation Performance and Knowledge/Awareness of Linguistics

Although several studies have investigated how bilinguals handled materials with linguistic ambiguity, the participants included in those studies were neither professional translators/interpreters nor trainee translators/interpreters (e.g., Bracken et al., 2017; Degani & Tokowicz, 2010; Degani et al., 2014; Eddington & Tokowicz, 2013; Michael et al., 2011; Prior et al., 2011, 2013). Therefore, only studies directly related to the current study are reviewed below.

Alos (2015) investigated how knowledge of pragmatic competence helped trainee translators to correctly infer implicit discourse relations when translating English (a language with low preference for explicitly marked coherence) into Arabic (a language with high preference for explicitly marked coherence). The qualitative and quantitative results indicated that the trainee translators who had received instruction in pragmatic competence were more aware of adequate signaling of the rhetorical relations in the translation than were the participants in the control group. The study demonstrated that knowledge of pragmatic competence helps trainee translators improve their accuracy in translating discourse makers from English to Arabic.

Beside Alos (2015) study focusing on the relationship between pragmatic competence and translator training, several studies have focused on the relationship between knowledge of syntactic ambiguity and translators’/interpreters’ translation performance. Interestingly, those studies focused on antecedent resolution between two languages. Lisica (2016) focused on how professional Croatian–English translators, Croatian–English trainee translators, and a control group comprehended ambiguous sentences triggered by different pronoun resolutions between Croatian and English. A typical experimental sentence is shown in sentence in (1) is ambiguous in that the overt pronoun *ona* is less preferable. After reading the sentence, the participants were invited to choose the best picture that matched (1) from Figure 1.

(1) *Dok ona *oblaci kaput majka ljubi kćer.*

while she puts on coat mother kisses daughter

“While she puts on the coat, the mother kisses the daughter.”
The results indicated that trainee translators outperformed the other two groups because they had the lowest percentage of construing the overt pronoun *ona* in (1) as the subject *the mother*. Lisica (2016) claimed that the better performance among trainee translators could be attributed to their ongoing training. More specifically, the training increased their meta-linguistic awareness and enabled them to focus more on performing structured linguistic tasks.

Togato et al. (2017) investigated how professional Spanish–English interpreters processed ambiguous relative clauses with two potential antecedents. A typical example is shown in (2) (from Togato et al. (2017)).

Participants were first invited to read the ambiguous sentence in Spanish (their native language) and were later required to either repeat the sentence in Spanish or interpret the sentence in English (their second language). Next, the participants were invited to answer questions for verification. In the case in (2), the question “Who got divorced?” was presented with two choices: “The secretary” (high attachment) and “The director” (low attachment). The results showed no difference in attachment preference when they were invited to repeat the sentence. However, the participants preferred the high attachment interpretation when they were invited to interpret the sentence. Those authors hence concluded that the process of training interpreters should include training students’ awareness of cross-linguistic differences in the linguistic processing of information.

Miličević and Kraš (2017) employed a picture selection task to investigate how English–Italian trainee translators and a control group of non-translators comprehended covert and overt ambiguous pronouns. A typical experimental sentence with the corresponding pictures is shown in (3) and Figure 2.

(2) *El dentista atendió a la secretaria de la directora que se divorció de su marido.*

“The dentist attended to the secretary of the director who divorced her husband.”
In (3), the covert pronoun could be construed as the taxi driver, the client, or an extra-linguistic referent. Based on Carminati’s (2002) Position of Antecedent Strategy, Miličević and Kraš (2017) claimed that the covert pronoun prefers an antecedent in the subject position, while the overt pronoun prefers an antecedent in a complement (or non-subject) position. Therefore, for the sentence in (3), the preferred antecedent for the covert pronoun was expected to be the taxi driver, and the participants were expected to select the first picture in Figure 2 as the best match. The results indicated that trainee translators made fewer pragmatically inappropriate antecedent selections than did the control group. The authors claimed that the better performance of trainee translators could be a result of their linguistic education. That is, the linguistic training of trainee translators increased their metalinguistic awareness and in turn provided advantages in language tasks.

Besides the reviewed studies that explored how knowledge of linguistics might influence translators’/interpreters’ translation performance, some studies highlighted the significance of linguistic knowledge in translator training by presenting results from surveys. Erton and Tanbi (2016) surveyed 63 senior-year students in translation and interpretation programs at two universities. The results indicated that, after taking basic courses in linguistics, 83% of the students were aware of the roles of linguistic theory in their future translation process. In addition, more than 80% of the participants in the study claimed that they could better identify the arguments in texts and that the linguistic-based courses were beneficial. The authors thus concluded that those linguistics courses “contribute to a better understanding and achievement of translation and interpreting courses” (p. 51). Similarly, Sabra (2018) surveyed three Lebanese universities offering translation programs at the bachelor level and found that the percentages of linguistics courses in the programs were 13.7%, 9%, and 21.2%. Of the 144 participants from those universities, 73% of them claimed that the linguistics courses they took were helpful in their translation practice. Additionally, 69.4% thought that knowledge of syntax was particularly helpful.

Present Study

It has been shown that the literature supports the idea that knowledge of linguistics would benefit (trainee) translators’/interpreters’ task performance. More specifically, metalinguistic awareness was the key factor in those (trainee) translators’/interpreters’ task performance. Alos (2015) study clearly demonstrated that knowledge of pragmatic competence did help trainee translators to increase their translation accuracy. Although Lisica (2016), Togato et al. (2017), and Miličević and Kraš (2017) claimed that linguistic knowledge might be the key factor allowing trainee translators/interpreters to comprehend ambiguous sentences better than did the professional translators/interpreters and/or participants in the control group, those studies did not directly access how awareness of linguistic knowledge contributed to the improvement of task performance. That is, those studies only inferred that the better performance among (trainee) translators/interpreters was the result of their better knowledge of linguistics. Miličević and Kraš (2017) suggested that “[The effects of linguistic training] are not commonly invoked in (psycho)linguistically oriented studies dealing with L2 [second language] acquisition and L1 attrition. . . . [T]his lacuna should not remain unfilled. . . .” This quote in turn highlights the significance of the current study, in which an experiment was designed to directly explore the relationship between trainee translators’ knowledge of linguistic ambiguity and their awareness of ambiguity in translation.

As a first step toward understanding the relationship between conscious awareness of linguistic knowledge and translation performance, this study investigated whether enhancement of the awareness of linguistic ambiguity helps trainee translators increase their awareness of ambiguity in translation and whether the effects are correlated with the participants’ language proficiency. The specific research questions are presented in (4).

(4) Research questions

a. Does increased awareness of linguistic ambiguity help trainee translators to detect translation ambiguity in a multiple-choice task?

b. Are the participants’ performance outcomes correlated with their language proficiency?
By exploring the questions, the current study adds to the literature by demonstrating the straightforward effects of knowledge of linguistic ambiguity on trainee translators’ awareness of ambiguity in translation, which in turn has valuable pedagogical implications. Based on the studies from Alos (2015), Erton and Tanbi (2016), Lisica (2016), and Miličević and Kraš (2017), it is predicted that with increased awareness of linguistic ambiguity, the participants in the current study could better recognize the existence of translation ambiguity in the multiple-choice task. Additionally, as the connection between degree of noticing and L2 learners’ language proficiency (Ünlü, 2015) remains inconclusive, the results of the study are expected to shed some light in this regard.

Methods

Participants

Fifty-four first-year undergraduates majoring in translation and interpretation in Taiwan were invited to participate in the experiment. They were students from a required listening and speaking training course. The students were invited to participate in the experiments in the first week (pretest) and the second week (posttest) of the class. Eight participants were later excluded from the data reported below because they provided wrong answers to at least half of the control items. Therefore, the data reported below are from 46 participants.

Design and Materials

The study employed a within-subject, pretest–treatment–posttest design. The pretest and posttest consisted of the same set of multiple-choice questions. For a typical multiple-choice item, the participants first read a sentence written in traditional Chinese characters and were provided with four choices written in English. They were invited to choose the most appropriate English translation of the Chinese sentence. Choices a and b were always two translations created by the author. These two choices could both be either incorrect or acceptable, or only one of the two choices was the acceptable translation. Choice c was always “Both choices a and b are possible,” and choice d was always “None of the above are correct.”

The materials consisted of three parts: five critical items, 18 control items, and one sample item used for the teaching session after the pretest. The critical items were limited to five so that the possibility of the participants detecting the real purpose of the test could be minimized. This was also the reason that the number of control items was three times that of the critical items. An exemplar sentence from each category is shown in (5) to (7), and the full list of the items can be found in the Appendix. Please note that the transliteration and word-by-word gloss were not presented during the experiment. In the test sessions, all the items were presented in a pseudorandom order. The answers for each choice (i.e., a, b, c, or d) were evenly distributed.

(5) Critical Item

小美應該離開了。
Xiǎoměi yīnggāi líkāi le.
Xiaomei should leave sentence-final-particle
Reading a: “Xiaomei is obligated to go to bed now.”
Reading b: “It is possible that Xiaomei has left.”

(6) Control Item

他不是不吃青椒或茄子。
Tā bú shì bù chī qīngjiāo huò qiézi.
he not is not eat green-pepper or eggplant
“It is not the case that he does not eat green peppers or eggplants.”

(7) Item Used for Instruction

約翰認為湯姆討厭自己。
Yuēhàn rènwéi Tāngmǔ tǎoyàn zìjǐ.
John think Tom hate self
Reading a: “John thinks that Tom hates him.”
Reading b: “John thinks that Tom hates himself.”
All five critical items were created based on the construction “SUBJECT + yīnggāi ‘should’ + VERB PHRASE + le ‘sentence final particle’,” such as (5). The sentences were globally ambiguous because the modal verb yīnggāi “should” was ambiguous between a wide-scope epistemic reading, showing possibility, and a narrow-scope root reading, showing obligation (Lin, 2011, 2012; Liu & Lee, 2014). Therefore, if the participants were aware of the ambiguity, they were expected to choose choice c. Eighteen control items, such as (6), were created to examine if the participants maintained concentration and were used to decide if the data should be included for further analyses. The data from those who provided nine or more incorrect answers from the eighteen control items, either in the pretest or the posttest, were excluded. The sentence in (7) was included in the tests and was used as one example for the teaching session on linguistic ambiguity. The sentence in (7) was globally ambiguous between two possible readings. In the first place, the bare reflexive zījǐ “self” in Mandarin Chinese could be an anaphor, whose reference is limited to the same clause (Chomsky, 1980, 1981, 1982, 1986). In the case of (7a), the zījǐ “self” could be an anaphor and could refer to Tāngmǔ “Tom.” On the other hand, the bare reflexive zījǐ “self” in Mandarin Chinese could be a logophor, whose antecedent could be a person of primitive roles such as Source (the intentional agent of the communication) and Self (the mental state or attitude the proposition describes) (Huang & Liu, 2000; Huang et al., 2009). In the case of (7b), the zījǐ “self” could be a logophor and could refer to Yūēhàn “John.”

To understand the participants’ English proficiency and to further explore the role of language proficiency in the task, the scores from a listening test were included. The test items were based on five lectures from TOEFL mock tests. After listening to each lecture, the students were invited to answer six questions. Each question might have more than one correct answer. The percentages of the correctly answered questions were adopted to represent the participants’ English proficiency level. The use of the midterm score was considered as an acceptable means to understand the participants’ English proficiency at the time of the test for the following reasons. First, all the participants had taken the same TOEFL listening mock tests. Second, although the academic subjects of the lectures (e.g., psychology) in the midterm test had been covered in class, the content of the midterm test (i.e., the test items and the listening scripts) was independent of the materials covered in class. Therefore, the resulting scores could reflect the participants’ language proficiency levels at the time of the test.

Procedure

After introducing the course objectives in the first hour of the first class meeting, the instructor (the author) introduced the test shown in the Appendix as an exam in translation proficiency. The instructor clearly stated that the scores would be an essential reference for course design and would not be counted as part of their final scores. The test took place in the second hour of the class meeting. After collecting all the pretest papers, the instructor raised the students awareness of linguistic ambiguity by presenting and explaining the information in (8).

The instructor specifically informed the students that linguistic ambiguity could be broadly divided into two types, lexical ambiguity and syntactic ambiguity. In the first example in (8), the word bank is ambiguous, for it could refer to both a river bank and a financial bank. In the second example in (8), the prepositional phrase with the telescope could be adverbial, modifying the verb saw (i.e., saw the man by using the telescope), or adjectival, modifying the object the man (i.e., saw the man who is holding the telescope). After that, the sentence in (7) was shown again and the students were invited to discuss and decide what kind of ambiguity the sentence contained. Finally, the students were encouraged to come up with some examples of linguistic ambiguity in either Chinese or English and share them with the class. The whole awareness-raising session took approximately 20 minutes.

The posttest was conducted a week after the pretest. Before the posttest, they were not reminded of the materials covered in the previous week. That is, no feedback was given between the two tests. All the participants finished each test (i.e., the pretest and the posttest) within 25 minutes.

Data Processing

All the corrected answers were coded with one point. Therefore, the full score for the critical items was five, and the full score for the control items was 18. Because the sentence in (7) was used in the teaching session, the results from (7) were not included for analysis. A teaching assistant marked the English proficiency test papers based on the answers provided by the author. The percentage of correct answers the students provided was used for statistical analyses.

(8) **Definition:** An ambiguous sentence is a sentence with more than one interpretation.

- e.g.: I went to the bank this morning. (lexical ambiguity)
- e.g.: The boy saw the man with the telescope. (syntactic ambiguity)

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Results

The descriptive results of the pretest and posttest are shown in Table 1. Three paired-samples $t$-tests were performed to answer the research hypotheses. The results are presented in the following subsections.

Critical Items

A paired-samples $t$-test was performed to investigate if the observed difference in critical-item scores was statistically significant. The results indicated that the difference between the participants’ posttest scores on critical items ($M = 3.43$, $SD = 2.062$) and pretest scores on critical items ($M = 1.65$, $SD = 2.057$) was statistically significant ($t(45) = -5.546$, $p < .001$, $d = .864$), indicating that, for the critical items, the performance on the posttest was better than the performance on the pretest.

Control Items

A paired-samples $t$-test was conducted to investigate if the observed difference in control-item scores was statistically significant. The results indicated that the difference between the participants’ posttest scores on control items ($M = 12.59$, $SD = 1.950$) and pretest scores on control items ($M = 14.57$, $SD = 1.893$) was statistically significant ($t(45) = 7.230$, $p < .001$, $d = 1.03$), indicating that, for the control items, the performance on the pretest was better than the performance on the posttest.

Overall Performance

A paired-samples $t$-test was performed to investigate if the observed difference in overall scores (critical items + control items) was statistically significant. The results indicated that the difference between participants’ overall posttest scores ($M = 16.02$, $SD = 2.246$) and overall pretest scores ($M = 16.22$, $SD = 2.270$) was not statistically significant ($t(45) = 0.672$, $p = .505$, $d = .089$).

Correlation of English Proficiency and Increase/Decrease in Posttest Scores

The average proficiency English score of the participants was 66.28 ($SD = 13.733$). Three Pearson product-moment correlations were run to determine the relationship between the participants’ English proficiency and their increases/decreases in the posttest scores (i.e., English proficiency scores vs. increases/decreases in the critical item scores, English proficiency scores vs. increases/decreases in the control item scores, and English proficiency scores vs. increases/decreases in the total scores). The results indicated that none of the correlations were statistically significant ($p > .05$).

Discussion and Concluding Remarks

As a first step toward understanding the relationship between conscious awareness of linguistic knowledge and translation performance, this study directly explored whether enhancement of trainee translators’ awareness of linguistic ambiguity increased their awareness of ambiguity in translation and whether the effects were correlated with the participants’ language proficiency. Forty-six first-year undergraduate translation majors were invited to take a multiple-choice test before and after a 20-minute introduction to linguistic ambiguity. Although the differences in the total scores (critical + control items) of the pretest and posttest were not statistically significant, differences were found between the pretest and posttest scores on critical items, as well as between the pretest and posttest scores on control items. More specifically, the participants detected more items with linguistic ambiguity in the translation after the introduction to linguistic ambiguity. However, awareness of linguistic ambiguity apparently interfered with their judgment of control items; the participants’ scores on control items decreased in the posttest. The results from correlation analyses revealed that the increases/decreases in the posttest scores were not correlated with the participants’ English proficiency scores.

In the following sections, we return to the research questions, discuss the pedagogical implications, and point out potential directions of future inquiry.

Responses to Research Questions

One of the aims of the current study was to explore whether increasing trainee translators’ awareness of linguistic ambiguity improves their ability to detect translation ambiguity in a multiple-choice task. According to the pretest and posttest scores of the critical items, the answer is affirmative. After just 20 minutes of instruction on linguistic ambiguity, the participants became more aware of the linguistic ambiguity in the texts and exhibited better performance on the critical
items on the posttest. The results support the *Noticing Hypothesis* proposed by Schmidt (1990, 1994, 2001, 2010). That is, “more noticing leads to more learning” (Schmidt, 1994, p. 18). On the other hand, according to the pretest and posttest scores of the control items, some negative effects were apparent, for the participants’ scores on the control items decreased significantly. This showed that the increase in the awareness of linguistic ambiguity made the participants overly suspicious and critical of the materials they read. In other words, they became so sensitive to linguistic ambiguity that they judged some control items to be ambiguous when the items were not. This phenomenon could also be accounted for by the *Noticing Hypothesis*. According to Schmidt (2001, 2010), the notion can be further divided into *noticing* and *understanding*. Noticing refers to individuals’ focal attention on the linguistic instances, whereas understanding implies that the individuals can generalize the rules across instances. In this sense, the participants in the current study were at the noticing stage and might require more exposure to the concepts of linguistic ambiguity in order for them to achieve a higher level of awareness. In short, the results indicated that increasing their awareness of linguistic ambiguity helped the participants perform better on a multiple-choice translation task. Additionally, the results suggested a need for longer and regular linguistics instruction for trainee translators so that they can move from the noticing stage to the understanding stage.

The current findings also shed light on the issue of learners’ language proficiency and the effects of noticing. The results from the correlation analyses indicated that the increases/decreases in the participants’ scores on the posttest were not correlated with their language proficiency. These results were in line with Takahashi’s (2005) findings but contrary to those in Qi and Lapkin (2001) and Hanaoka (2007). A closer look into the literature revealed that the critical factor contributing to the discrepancy might be the way the effects of noticing were measured. Specifically, both Qi and Lapkin (2001) and Hanaoka (2007) quantified the effects of noticing by counting the numbers of changes the participants noticed in the revised/reformulated version of their earlier writings. However, in a recent study from Liu and Chen (2021), the foreign language learners in the study did not report all the gaps they noticed. Those authors further showed that when the learners were required to reply to online messages on the posttest, their use of apologetic strategies improved, though some of the strategies were not explicitly mentioned in the noticing stage, where the participants were required to report the differences between their own writing and native speaker writing models. In contrast, instead of counting the numbers of the noticed gaps reported by the participants, Takahashi (2005) administrated an awareness questionnaire, and the current study administrated a posttest to measure the effects of noticing. In this case, the possibility of misalignment between what were noticed and what were reported was lowered, and the resulting patterns did not suggest correlation between learners’ language proficiency and the effects of noticing.

**Pedagogical Implications**

The results from this experimental study have significant pedagogical implications. First, the current study directly explored the relationship between the introduction of linguistic ambiguity and trainee translators’ awareness of ambiguity in translation. As the results demonstrated that the introduction of linguistic ambiguity was beneficial and the effect size for the improvement of the critical items (i.e., $d= .864$) was large (Cohen, 1988, p. 26), it is suggested that increasing trainee translators’ awareness of linguistic ambiguity is essential. Translation programs must include courses introducing basic concepts such as linguistic ambiguity into the curriculum. Second, as the results also demonstrated that the short introduction of linguistic ambiguity led to decreases in scores on the control items, and the effect size (i.e., $d= 1.03$) was also large. It is suggested that translation programs provide sufficient linguistics courses so that essential linguistic concepts can be reinforced. With such reinforcement, trainee translators would be more likely to move from simply noticing the gap to the desirable understanding stage.

Although the necessity of linguistic knowledge in translation has been identified in the current study as well as in the literature, it is surprising to learn that many translation programs do not adequately include linguistics courses. In the undergraduate translation programs in Taiwan, for example, at the time of writing this research paper, there were two 4-year undergraduate departments devoted to training professional translators/interpreters, namely, the Department of Translation and Interpretation Studies, Chang Jung Christian University, and the Department of Translation and Interpreting, Wenzao Ursuline University of Languages. However, these two departments did not require the students to take any linguistics courses. The undergraduate translation program at Chang Jung Christian University was founded in 1996. According to the available data online (from fall 1999 to spring 2021), the course *Introduction to Linguistics* was a requirement for translation majors in the spring semester of 1999. The course was offered as an elective course in the fall semesters from 2003 to 2013 and in the spring semesters from 2016 to 2020. In the periods of 2000 to 2002 and 2014 to 2015, the department did not offer the course. In the undergraduate translation program at Wenzao Ursuline University of Languages, launched in 2005, the course *Introduction to Linguistics* has never been offered by the department. Although the program offers a required two-semester course on *Contemporary Chinese Literature*, a required one-semester course on *Chinese Expressions and Writing*, and another required one-semester course for *Chinese Stylistics*, those courses focused on Chinese rhetoric and genres but not linguistics. Based on the results of the experiment in the current study, it is suggested that linguistics-related courses that
could help raise trainee translators’ awareness of linguistic knowledge be regularly offered.

**Directions for Future Studies**

Although the current study directly assessed the effects of awareness of linguistic ambiguity on trainee translators’ awareness of ambiguity in translation, the answers to the research questions might be tentative rather than definitive due to some limitations. It is believed that future studies addressing the following relevant issues might expand our understanding of the relationship between awareness of linguistic knowledge and trainee translators’ task performance. Specifically, besides the awareness of linguistic ambiguity explored in the current study and the awareness of pragmatic competence explored by Alos (2015), future studies could explore the interplay between a wider range of linguistic knowledge and trainee translators’ task performance. For instance, it might be worthwhile to investigate how awareness of articulatory phonetics and phonology could help trainee translators/interpreters to adapt to accents in the translation/interpretation process, or how awareness of differences in the syntactic structures of the source and target languages helps trainee interpreters in information processing when they are doing consecutive/simultaneous interpretations. In addition, as the current study showed the negative impact of the short introduction to linguistic ambiguity, future studies might wish to expand the time length and frequencies of the training sessions. The participants’ performances at different time points of the training could be collected and analyzed. In this connection, the relationship between the degree of exposure and the outcome performance could be further explored. Results from this line of study would provide essential insights on curriculum design for translation programs.

**Appendix**

The correct answer is shown within the parentheses at the end of each Chinese sentence. As Choices c (i.e., Both choices a and b are possible) and d (i.e., None of above is correct) are always the same, they are omitted here. The English translations are provided for items whose answers are d. Please also note that SFP stands for sentence final particle.

**Critical Items**

1. 小美應該離開了。 (c)
   
   Xiaomei should leave SFP
   
   a. Xiaomei should (is obligated to) leave now.
   b. It is the case that Xiaomei has left.

2. 小花應該上床睡覺了。 (c)
   
   Xiaohua should go-to-bed sleep SFP
   
   a. Xiaohua should (is obligated to) go to bed now.
   b. It is the case that Xiaohua has gone to bed.

3. 小珊應該吃飯了。(c)
   
   Xiaoshan should eat rice SFP
   
   a. Xiaoshan should (is obligated to) have her dinner now.
   b. It is the case that Xiaoshan has had her dinner.

4. 小張應該回家了。(c)
   
   Xiaozhang should go-home SFP
   
   a. Xiaozhang should (is obligated to) go home now.
   b. It is the case that Xiaozhang has gone home.

5. 小華應該去上學了。 (c)
   
   Xiaohua should go-to-school SFP
   
   a. Xiaohua should (is obligated to) go to school now.
   b. It is the case that Xiaohua has gone to school.
Control Items

6. 他不讀小說或雜誌。 (d)

Tā bù dú xiǎoshuō huò zázhì.

“He doesn’t read novels or magazines.”

a. It is not the case that he does not read the novels or the magazines.

b. He reads the novels or the magazines.

7. 他從不讀小說或雜誌。 (b)

Tā cóng bù dú xiǎoshuō huò zázhì

“he ever not read novel or magazine”

a. It is not the case that he does not read the novels or the magazines.

b. He has never read the novels or the magazines.

8. 他不是不吃青椒或茄子。 (a)

Tā bù shì bù chī qīngjiāo huò qiézi.

“he not is not eat green-pepper or eggplant”

a. It is not the case that he does not eat green peppers or eggplants.

b. He has never eaten green peppers or eggplants.

9. 他不吃青椒或茄子。 (a)

Tā bù chī qīngjiāo huò qiézi.

“he not eat green-pepper or eggplant”

a. He doesn’t eat green peppers or eggplants.

b. He has never eaten green peppers or eggplants.

10. 他從不玩壘球或撞球。 (a)

Tā cóng bù wán lěiqiú huò zhuàngqiú.

“he ever not play softball or billiard”

a. He has never played softball or billiards.

b. He doesn’t play softball or billiards.

11. 小慧不可以出去玩。 (a)

Xiaoohui bù kěyǐ chūqù wán.

“Xiaohui not can go-out play”

a. Xiaohui cannot go out and have fun.

b. Xiaohui shouldn’t have gone out and had fun.

12. 小寶今天不可以吃點心。 (a)

Xiǎobǎo jīntiān bù kěyǐ chī diǎnxīn.

“Xiaobao today not can eat snack”

a. Xiaobao cannot have snacks today.

b. It is the case that Xiaohui shouldn’t have had any snacks.

13. 小安可能睡著了。 (b)

Xiaān kěnéng shuì-zháo le.

“Xiaoan possible fall-asleep SFP”

a. Xiaoan. should (is obligated to) go to bed now.

b. It is possible that Xiaoan has already fallen asleep.

14. 小彤可能寫完功課了。 (b)

Xiǎotóng kěnéng xiěwán gōngkè le.

“Xiaotong possible finish-write homework SFP”

a. Xiaotong. should (is obligated to) finish her homework now.

b. It is possible that Xiaotong has finished her homework.

15. 約翰認為湯姆討厭他自己。 (b)

Yuēhàn rènwéi Tāngmù tǎoyàn tā zìjǐ.

“John think Tom hate him self”

a. John thinks that Tom hates him.

b. John thinks that Tom hates himself.
16. 瑪麗認為茱蒂喜歡她自己。 (b)
   Mǎlì rènwéi Zhūdì xǐhuān tā zìjǐ.
   Mary think Judy like her self
   a. Mary thinks that Judy likes her.
   b. Mary thinks that Judy likes herself.

17. 小慧現在可以出去玩了。 (d)
   Xiǎohuì xiànzài kěyǐ chūqù wán le.
   Xiaohui now can go out play SFP
   “Xiaohui is able/allowed to go out and have fun now.”
   a. Xiaohui cannot go out and have fun now.
   b. Xiaohui shouldn’t have gone out and had fun.

18. 小寶今天可以吃點心。 (d)
   Xiǎobǎo jīntiān kěyǐ chī diǎnxīn le.
   Xiaobao today can eat snack SFP
   “Xiaobao can have snacks today.”
   a. Xiaobao cannot have snacks today.
   b. It is the case that Xiaohui shouldn’t have had any snacks.

19. 瑪麗認為茱蒂喜歡她。 (a)
   Mǎlì rènwéi Zhūdì xǐhuān tā.
   Mary think Judy like her
   a. Mary thinks that Judy likes her.
   b. Mary thinks that Judy likes herself.

20. 約翰不認為湯姆討厭他自己。 (d)
    Yuēhàn bù rènwéi Tāngmǔ tǎoyàn tā zìjǐ.
    John not think Tom hate him self
    “John doesn’t think that Tom hates himself.”
    a. John thinks that Tom hates him.
    b. John thinks that Tom hates himself.

21. 瑪麗不認為茱蒂喜歡她自己。 (d)
    Mǎlì bù rènwéi Zhūdì xǐhuān tā zìjǐ.
    Mary not think Judy like her self.
    “Mary doesn’t think that Judy likes herself.”
    a. Mary thinks that Judy likes her.
    b. Mary thinks that Judy likes herself.

22. 瑪麗認識約翰很久了。 (d)
    Mǎlì rènshì Yuēhàn hěn jiǔ le.
    Mary know John very long SFP
    “Mary has known John for a long time.”
    a. Mary knows John well.
    b. Mary has known John since a long time.

23. 瑪麗認識約翰很久了。 (b)
    Mǎlì rènshì Yuēhàn hěn jiǔ le.
    Mary know John very long SFP
    a. Mary knows John pretty well.
    b. Mary has known John for a long time.

Item Used for Instruction

24. 約翰認為湯姆討厭他自己。 (c)
    Yuēhàn rènwéi Tāngmǔ tǎoyàn zìjǐ.
    John think Tom hate self
    a. John thinks that Tom hates him.
    b. John thinks that Tom hates himself.
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