# Previous studies have several limitations …: Indonesian Doctoral Students', Indonesian Academics', and International Authors' Research Gap Strategies in ELT Research Article Abstracts and Introductions

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Presenting research gap(s) in a research article (RA), particularly in the abstract and introduction, should be considered by authors, since it functions to show the novelty of the research. As there have been limited studies on the possible variations in authors' research gap strategies and the problems in identifying research gaps, this mixed-method study aimed to fill the gaps. Using genre analysis, this study compared the use of research gap strategies in English Language Teaching (ELT) RA abstracts and introductions by three groups of authors, namely, Indonesian doctoral students, Indonesian academics, and international authors. The results of the quantitative analysis in this study indicated that the three groups share similarities and differences in using the types of research gap strategy in their ELT RA abstracts and introductions. Then, the qualitative analysis using semi-structured interviews with ten doctoral students revealed some problems encountered by them in identifying research gaps during research activities. Finally, this study demonstrates the extent to which our findings have theoretical and practical implications concerning the use of strategies in presenting research gaps in RAs.

*Keywords*: abstract, introduction, research article, research gap strategy

## Introduction

Publishing English RAs in international journals has been a requisite for doctoral students to achieve the doctoral degree, and this rule has become widespread in many countries in America, Europe, and Asia over the last few years (Cuthbert & Spark, 2008; Li, 2015). We do agree that sharing knowledge through the medium of publications is important, especially to navigate students' expertise, foster interaction in discourse community memberships, train students to search for innovations, and increase scientific autonomy and credibility as future researchers (Behnam & Zamanian, 2013; Hyland, 2011; Horta & Santos, 2016; Kwan et al., 2012; Tanko, 2017; Yasmin and Mahmood, 2017). Considering the importance of RA publications, universities in Indonesia have provided several programs, such as workshops and short courses about writing RAs for publications, to assist students in writing RAs for publication in international journals (Arono & Arsyad, 2019). The curriculum developers have also provided several courses in which the objectives demand the students to produce RAs.

Moreover, researchers, who focus on genre analysis of RAs, have also been in the limelight because their reports contribute to the advancement of knowledge, particularly in writing RAs (Ankomah & Afful, 2019; Hu & Liu, 2018; Irawati, Saukah, & Suharmanto, 2018; Kawase, 2018; Keshavarz, Atai, & Barzgar, 2007; Parnawati, Basthomi, & Ruslan, 2017; Rahman, Darus, & Amir, 2017; Rochma, Triastuti, & Ashadi, 2020; Samraj, 2005; Swales, 1990; Swales, 2004; Tanko, 2017). However, in the context of non-native English countries, such as Indonesia, understanding the rhetorical style of English RA is still lacking (Arono & Arsyad, 2019; Arsyad, Purwo, Sukamto, & Adnan, 2019, Khany, Aliakbari, & Mohammadi, 2019; Su & Wood, 2012; Yonezawa, 2015). Moreover, acquiring acceptance for publication in international journals is not as easy as falling off a log. The

editorial teams only consider RAs that make novel contributions. Therefore, authors need to have knowledge of how to propose novelty in their studies to convince their audience (e.g., editors, reviewers, peer researchers, etc.) about the validity of the research being conducted (Lim, 2012).

The novelty of research can be identified in the RA abstracts and introduction sections (Hyland, 2000; Shehzad, 2008), and it appears when authors present their research gaps. The research gaps in the abstract can capture the interest of the audience and impress them enough to continuing reading or ignoring the remaining sections (Amnuai, 2019). In the introduction section, the research gaps appeared in the move of establishing a niche (Swales, 1990, 2004). It functions to show the difference between what has been studied and what can be potentially conducted as further studies (Chen & Li, 2019; Lim, 2012). Thus, doctoral students need to learn the ways to present research gaps in both sections.

Under the previous studies, the investigation of authors' research gap strategies so far has received little attention since only limited studies has been conducted (Chen & Li, 2019; Lim, 2012; Suryani, Yacob, & Aziz, 2015). In response to a call for studies focusing on authors' research gap strategies in other disciplines (Lim, 2012) and considering what has been barely explored in the current body of knowledge, this study investigated Indonesian doctoral students' strategies for presenting research gaps in their ELT RA abstracts and introductions. Although they have mastered English both in oral and written communication, the majority of non-native English authors still have problems in writing English RAs, particularly in proposing novelty in their research (Adnan, 2009; Arono & Arsyad, 2019; Arsyad, Purwo, Sukamto, & Adnan, 2019; Basthomi, 2007; Flowerdew, 2001).

Furthermore, since English RAs published in international journals can be used as guidelines for students in writing RAs (Alamri, 2020; Futasz, 2006; Khany & Tazik, 2010), in this study, the Indonesian doctoral students' research gap strategies were also compared to the strategies used by Indonesian academics and international authors whose ELT RAs had been published in high-quality, peer-reviewed international journals. A comparative analysis enabled us to see the differences and similarities, particularly involving the realization of research gap strategies. To provide more useful pedagogical implications, we also conducted a qualitative study to explore the students' problems identifying research gaps in both sections. This study sought to provide the answers to the following research questions:

1. How do Indonesian doctoral students, Indonesian academics, and international authors use their research gap strategies differently in their ELT RA abstracts and introductions?
2. Are there any problems faced by Indonesian doctoral students in identifying research gaps?

The first question required quantitative data related to the frequency of occurrences of the authors' research gap strategies, while the second one required qualitative data related to the doctoral students' problems in identifying research gaps. This study may enlighten instructors who are developing academic writing instructions and materials, and provide implications for non-native and novice authors, including doctoral students, in regard to writing English RAs abstracts and introductions, particularly when presenting research gaps.

**Research Gaps in Research Articles**

In writing RAs, authors should propose novel contributions of their research to the advancement of knowledge. Novelty in research functions to help avoid the repetition of already existing knowledge (Ankomah & Afful, 2019). One solution for showing the novelty of research is by presenting research gap(s). The RA abstract and introduction sections are the parts of the paper in which the authors present their research gaps. The abstract functions to place the authors' aims, description of methodology, results, and conclusion (Bathia, 1993; Swales, 1990, 2004). Moreover, if we look deeper, the introduction element of the abstract section not only contains the background, purpose, or objective of the research, but it can also benefit from statements indicating research gap(s) (Hatzitheodorou, 2014). This is in line with Hyland's (2000) idea that one of the ways to present the introduction element in the abstract section is by stating the research gaps (Figure 1).

**Figure 1**
*Hyland's framework (2000) of RA abstracts*
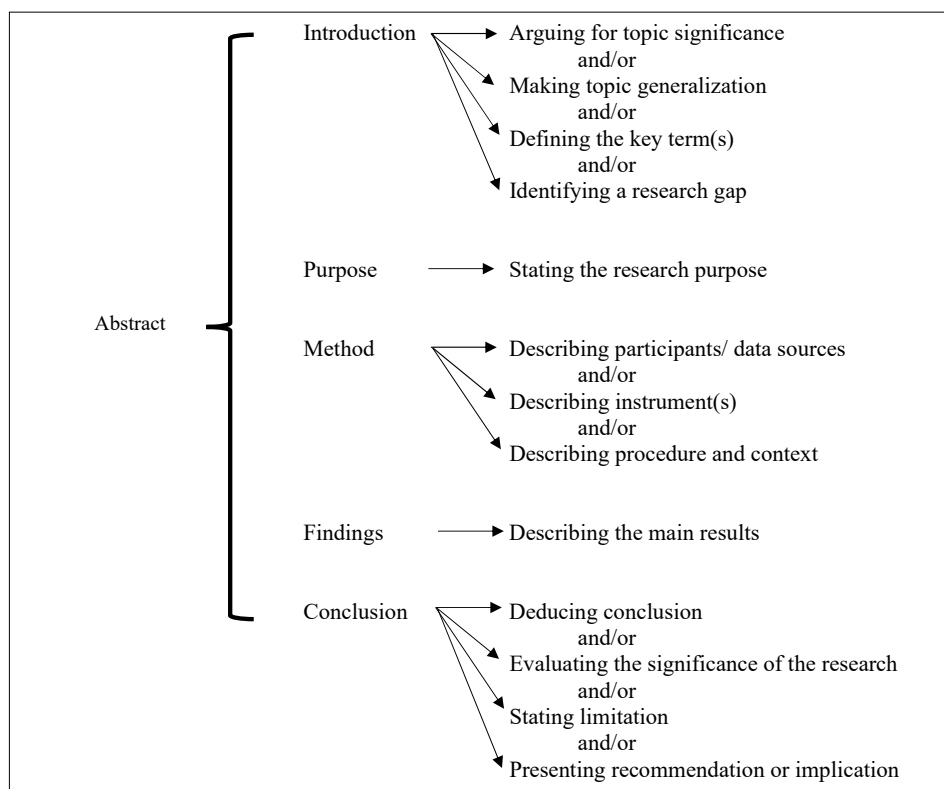


The RA introduction also plays an important role in allowing the author to establish a territory, establish a niche, and occupy the niche (Swales, 1990, 2004). This section demands that authors explicitly justify areas that are worthy of study and show their position in the study being conducted (Ankomah & Afful, 2019). In this regard, Swales' (1990, 2004) Creating a Research Space (CARS) models have been regarded as breakthroughs in guiding non-native and novice authors in writing their introduction sections. The three moves followed by their respective steps can be seen in Figure 2 below.

**Figure 2**
*Swales' (1990, 2004) CARS models of RA introductions*

Move 1 Establishing a territory
    Step 1 Claiming centrality (and/or)
    Step 2 Making topic generalization(s) (and/or)
    Step 3 Reviewing items of previous research

Move 2 Establishing a niche
    Step 1A Counter-claiming (or)
    Step 1B Indicating a gap (or)
    Step 1C Question-raising (or)
    Step 1D Continuing a tradition

Move 3 Occupying the niche
    Step 1A Outlining purposes (or)
    Step AB Announcing present research
    Step 2 Announcing principal findings
    Step 3 Indicating RA structure

*A 1990 Swales' CARS Model*

Move 1 Establishing a territory
    Topic generalization of increasing specifity

Move 2 Establishing a niche
    Step 1A Indicating a gap (or)
    Step 1B Adding to what is known
Step 2 Presenting positive justification (optional)

Move 3 Occupying the niche
Step 1 Outlining purposes or stating the nature of
    the present research (Obligatory)
    Step 2 Listing research questions or hypothesis
    Step 3 Definitional clarifications (optional)
    Step 4 Summarizing methods (optional)
    Step 5 Announcing principal findings
    Step 6 Stating the value of the present research
    Step 7 Indicating structure of the research paper

*A 2004 Swales' CARS Model*

As seen in Figure 2, the second model (Swales, 2004) is the revised version of the first one (Swales, 1990), and it was developed considering critiques from previous studies (Anthony, 1999; Samraj, 2002). However, it does not

mean that the first model cannot still be used. Recently, some previous studies (e.g., Abdolmalaki et al., 2019; Afshar et al., 2018; Farnia & Barati, 2017) have considered the 1990 version to be the model used to identify the moves and steps in RA introductions. Meanwhile, some others have considered both models when investigating authors' rhetorical elements in RA introductions (Abdi & Sadeghi, 2018; Lim, 2012; Loi, 2010; Moghaddasi & Graves, 2017; Rahman, Darus, & Amir, 2017; Rubio, 2011; Wang & Yang, 2015). However, although many studies have investigated authors' RAs, particularly the abstract and introduction sections, and their reports have been used as guidelines for non-native and novice authors, there is still a need for deeper analysis on how authors present their research gaps in both sections.

Zainuddin and Shaari (2017) claimed that a research gap is quite important to consider when writing RAs. Research gaps function to justify the authors' position in their studies (Hyland, 2000; Lim, 2012; Swales, 1990, 2004). Presenting research gaps can guarantee strong impressions from audiences, such as reviewers, editorial teams, readers, and discourse communities because they can establish the positionality of authors in the research being conducted. To ensure that their topics are feasible for the current contribution (Samraj, 2002; Swales, 1990, 2004), authors needs to understand how to present research gaps in theirRA abstracts and introductions.

Lim (2012), who investigated the management of RA introductions, found that authors used several strategies when presenting research gaps, namely, highlighting the complete absence of research bearing a specific characteristic, stressing insufficient research in a specific aspect, revealing a limitation in previous research, and contrasting conflicting previous research findings. This insight is also supported by Chen and Li (2019) who investigated Chinese authors' research gap strategies and found that pointing out insufficient research could be considered a way to present a research gap in applied linguistics RAs. However, a missing strategy called suggesting solution(s), which was not found in either study (i.e., Chen & Li, 2019; Lim, 2012), should be considered as a potential strategy in presenting a research gap. This strategy starts with identifying some problems then proposing solution(s) to solve the problems (Kwan et al., 2012). Authors in the education field tend to reveal problems experienced in the real-world context. For instance, teachers as authors may present their real problems in classroom settings and try to solve the problems using some proposed techniques (Rochma et al., 2020). Besides the absence of the strategy of suggesting solution(s) in previous studies, the authors limited their studies to only RA introductions. They missed the opportunity to analyze other authors' research gap strategies in the RA abstracts, which are also something necessary to investigate.

Considering the limitations of previous studies (e.g., Chen & Li, 2019; Lim, 2012), this study was deemed necessary to conduct. Additionally, as further development of Hylands' (2000) and Swales' (1990, 2004) frameworks on research gaps, Figure 3 shows an updated framework that can be used to identify authors' strategies for presenting research gaps in RA abstracts and introductions. Although it may not be a perfect framework, it can be reliably used to investigate authors' research gap strategies in RAs in the education field, especially in ELT.

**Figure 3**
*Strategies for presenting research gaps*
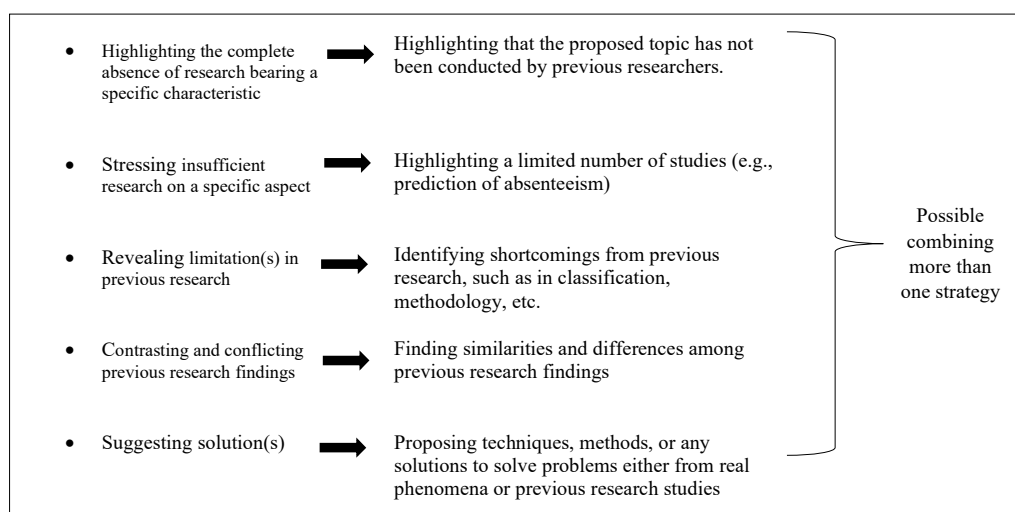
# Method

**Design**

Since this study focused on comparing the research gap strategies used by Indonesian doctoral students, Indonesian academics, and international authors in their ELT RA abstracts and introductions, as well as exploring the doctoral students' problems in identifying research gaps, a mixed-method design was employed and a quantitative analysis involving simple descriptive statistics was conducted. The analysis focused on the frequency of occurrences of the research gap strategies used by the three groups of authors in their RA abstracts and introductions with a total of ninety RAs. Meanwhile, for the qualitative analysis, the doctoral students' problems identifying research gaps were obtained through semi-structured interviews. Out of thirty doctoral students who were undertaking the ELT doctoral program in a public university in Malang, West Java, Indonesia, ten of them participated in the interviews.

**Data Collection and Analysis**

Comparing the RAs of the three groups of authors in the same field enabled us to identify the authors' similarities and differences when using strategies to present research gaps. The quantitative data were derived from analyzing the occurrences of Indonesian doctoral students', Indonesian academics', and international authors' research gap strategies in their ELT RA abstracts and introductions. For the first group, thirty RAs written by Indonesian doctoral students were selected. Since the participants had not had articles published in international journals, we considered compiling their RAs which had been published in local Indonesian peer-reviewed journals[1]. Conversely, the data for the second and third groups were obtained from thirty RAs written by Indonesian academics and thirty RAs written by international authors (non-Indonesian) whose RAs had been published in international journals[2].

For selecting the international journals, a certain set of criteria was applied. First, the journals were open access and peer-reviewed journals. Second, since Scopus has the best reputation among all indexing databases, the selected journals were Scopus-indexed journals, and the Scopus and Scimago websites (www.scopus.com & www.scimagojr.com) were visited to see the journals' information details. Third, the impact factor according to Journal Citation Reports (JCR) was also considered to determine whether or not the selected journals represent the world's leading journals.

Then, in regard to the selection of the RAs, the selected RAs had to follow the conventional structure of RAs, i.e., abstract (A), introduction (I), method (M), results (R), and discussion (D) sections (Hyland, 2000; Swales, 1990). Regarding the introduction section, which became one of the concerned sections in this study, we only selected RAs with introduction sections that covered all of the moves (i.e., establishing a territory, establishing a niche, and occupying a niche) without any subheadings such as literature review, aims/ purposes of the study, rationales of the study, etc. Additionally, to control the potentially rapid changes within the discipline, the years of publication were restricted to a period of five years (2016-2020).

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[1] The Indonesian doctoral students' RAs that were analyzed in this study are those which had been published in local journals in the period 2016-2020, namely *Pedagogy Journal of English Language Teaching, Jurnal Edukasi, The Journal of English Language Studies, MADRASAH, Jurnal Bahasa Lingua Scientia, Lingua Scientia, BRIGHT, UNILA Journal of English Teaching, Journal of ELT Research, Journal Pendidikan Humaniora, Language and Language Teaching Journal, Teflin, Lingua Didaktika, LET Journal, JEELS, Premise Journal, Bahasa dan Seni, Journal of English Educators Society, ELTICS Journal, Vidyottama Sanatama, Indonesian Journal of English Teaching, LEEA, IJSELL, Tell Journal, NOBEL, Academic Journal Perspective, and RETORIKA.*

[2] The Indonesian academics' and international authors' RAs that were analyzed in this study are those which had been published in international ELT journals, namely *Applied Linguitsics, The Modern Language Journal, System, ELT Journal, Journal of Second Language Writing, Language Teaching Research, TESOL Quarterly, Language Learning and Technology, Indonesian Journal of Applied Linguistics, The Qualitative Report, Cakrawala Pendidikan, XLinguae, The Asian ESP Journal, The Asian EFL Journal, The Asian Journal of Applied Linguistics, Journal of Language and Education, TESOL International Journal, International Journal of Language Studies,e-FLT, The Journal of Asia TEFL, Korea TESOL Journal, and SAGE Open.*

**Table 1**
*The Indonesian doctoral students', Indonesian academics', and international authors' ELT RAs*

| Corpus | Number of RAs | Publication Years |
|---|---|---|
| Indonesian doctoral students' RAs | 30 | 2016-2020 |
| Indonesian academics' RAs | 30 | 2016-2020 |
| International authors' RAs | 30 | 2016-2020 |
| *Total* | *90* | *2016-2020* |

For the data analysis, a modified framework (Figure 3) was prepared. The framework was discussed and validated by two experts in the field of genre analysis. It was also tested on other RAs out of the selected sample, and it was found that the framework was reliable to be used to investigate the authors' strategies for presenting research gaps. The process of data analysis was done in several steps. First, the abstract and introduction sections of each RA were extracted and documented in a different file. Second, the statements indicating research gaps were highlighted and coded. When analyzing the abstract of the RAs, Hyland's framework (2000) was used to identify the statements indicating research gaps. Meanwhile, in the introduction section of the RAs, the analysis focused on the authors' niche establishment in which their research gap strategies were found (Swales, 1990). Third, the research gap strategies found in the corpora were grouped according to the modified framework. We also invited a co-rater to assess the reliability of our analysis results. She was firstly briefed to familiarize herself with the classification of strategies to indicate research gaps. The discrepancies in the analysis results were found, but we negotiated and discussed them until we got the final decisions. The reliability value was found to be .948, and it was claimed as the excellent agreement between the raters (the co-rater and us) (Orwin, 1994).

To obtain the qualitative data, ten potential participants (i.e., three males and seven females out of the Indonesian doctoral students) were chosen randomly, and they were asked whether or not they would be willing to be interviewed. Considering their anonymity, they were informed that their names would be pseudonyms. Their affiliations and other personal information would alsobe completely anonymized. The interview guidelines were piloted to two students not among the participants to check the interview questions before conducting the interview to the participants of the study. The list of questions was revised based on the feedback and suggestions from the two students from a pilot study and two experts (Appendix 2). Given the semi-structured interview format, elaborating on some of the questions might occur during the interview sections. The interviewers and interviewees were free to develop the ongoing conversations in order to obtain additional data. The interviews were audio-recorded, transcribed, and analyzed. The data obtained were then interpreted and described under the heading of problems when identifying research gaps. To ensure the credibility (Creswell, 2007), two expert were invited to examine the data and verify that they were interpreted in an appropriate manner.

# Results

**Indonesian doctoral students', Indonesian academics', and international authors' research gap strategies in ELT RA abstracts and introductions**

This subheading presents the results on the frequency of occurrences of the strategies for presenting research gaps used by the three groups of authors: Indonesian doctoral students, Indonesian academics, and international authors. Table 2 and Table 3 display the types of research gap strategies used by the authors in their ELT RA abstracts and introductions.

**Table 2**
*Frequency of occurrences of strategies for presenting research gaps in the authors' abstracts*

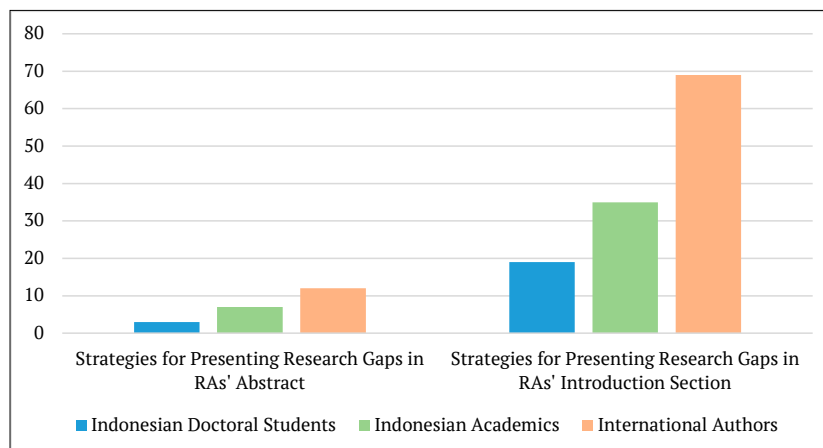| No. | Research Gap Strategies | Indonesian Doctoral Students (N= 30) | | Indonesian Academics (N= 30) | | International Authors (N=30) | |
|---|---|---|---|---|---|---|---|
| | | f | % | f | % | f | % |
| 1 | Highlighting the complete absence of research bearing a specific characteristic | - | - | 1 | 14.3 | 1 | 8.3 |
| 2 | Stressing insufficient research on a specific aspect | 1 | 33.3 | 4 | 57.1 | 5 | 41.7 |
| 3 | Revealing limitation(s) in previous research | - | - | - | - | 1 | 8.3 |
| 4 | Contrasting conflicting previous research findings | - | - | 1 | 14.3 | 2 | 16.7 |
| 5 | Suggesting solution(s) | 2 | 66.7 | 1 | 14.3 | 3 | 25 |
| | *Total* | *3* | *100* | *7* | *100* | *12* | *100* |

**Table 3**
*Frequency of occurrences of strategies for presenting research gaps in the authors' introductions*

| No. | Research Gap Strategies | Indonesian Doctoral Students (N= 30) | | Indonesian Academics (N= 30) | | International Authors (N=30) | |
|---|---|---|---|---|---|---|---|
| | | f | % | f | % | f | % |
| 1 | Highlighting the complete absence of research bearing a specific characteristic | - | - | 7 | 20 | 15 | 21.7 |
| 2 | Stressing insufficient research on a specific aspect | 6 | 31.6 | 10 | 28.6 | 21 | 30.4 |
| 3 | Revealing limitation(s) in previous research | 1 | 5.3 | 4 | 11.4 | 16 | 23.2 |
| 4 | Contrasting conflicting previous research findings | 1 | 5.3 | 2 | 5.7 | 6 | 8.7 |
| 5 | Suggesting solution(s) | 11 | 57.8 | 12 | 34.3 | 11 | 15.9 |
| | *Total* | *19* | *100* | *35* | *100* | *69* | *100* |

The two tables above present some variations in the research gap strategies used by the three groups, and most of the strategies appeared in all RAs. We can see that the international authors, in general, applied the five types of research gap strategy in their RA abstracts and introductions. Overall, the group with the fewest occurrences of the strategies was the group of Indonesian doctoral students (3 occurrences in the RA abstracts and 19 occurrences in the RA introductions). Moreover, as seen in Table 3, the five types of research gap strategies occurred in the Indonesian academics' and international authors' introductions. Meanwhile, the Indonesian doctoral students used four strategies; they did not use the strategy of highlighting the complete absence of research bearing a specific characteristic.

**Figure 4**
*Overall occurrences of research gap strategies in the RA abstracts and introductions across the three groups of authors*

Figure 4 illustrates that the strategies for presenting research gaps in the RA abstracts and introductions were most frequently used by the international authors, followed by the Indonesian academics. We argue that the international authors believed in the importance of research gaps. They tried to convince readers about the novelties of their studies by presenting research gaps in their RA abstracts and introductions via the five types of research gap strategy. Moreover, it is important to note that some of the Indonesian doctoral students and Indonesian academics used positive justification as the only way to justify their research instead of applying research gap strategies like the international authors did. Based on the data analysis, a positive justification in the RA introductions was used more by the Indonesian doctoral students (11 RAs) than the Indonesian academics (4 RAs). A detailed explanation of the research gap strategies used by the three groups of authors, along with examples from the corpora, will be provided below.

### Highlighting the complete absence of research bearing a specific characteristic
Authors can produce research gaps by claiming that no research has been done related to a specific area. Lim (2012) stated that this strategy can be used in RAs by using negative quantitative noun phrases (e.g., none of the studies, no research, etc.) or negative investigative verb phrases (e.g., have not been investigated, has yet to be examined, etc.). Based on the data analysis, except for the Indonesian doctoral students, the Indonesian academics and international authors used the strategy of highlighting the complete absence of research bearing a specific characteristic in their RA abstracts and introductions.

> *Excerpt 1*
>
> They *have not*, however, explicitly addressed how wiki-mediated collective production helps individual L2 writing performance. The present study aims to fill this gap. (IA-RAI14)

Looking at the excerpt above, the authors used a negative verb phrase (i.e., have not) to indicate their research gap. It indicated that the authors believed that the research on how wiki-mediated collective production helps individual L2 writing performance had not been conducted to date.

### Stressing insufficient research in a specific aspect
Certain topics that have still received little attention need to be studied. The lack or dearth of literature can result in unstable reports or findings. Authors may indicate the limited number of studies on certain topics as their research gaps (Lim, 2012).

> *Excerpt 2*
>
> *Although* there have been some studies done on the <u>impact of glossing</u>, most of them *only* focus on paper-based glossary and online glossary on improving L2 reading comprehension and vocabulary mastery. *However, little attention has been paid* to connect glossary and personality learning style. (DS-RA101)
>
> *Excerpt 3*
>
> *Although* *students* are the key players in pair or group work, little is known about their perceptions of or attitudes towards collaborative writing and how these factors influence patterns of interaction and language learning opportunities during such activities. (IA-RAI13)

Excerpt 2 shows that the author proposed a new inclusion of connecting glossaries and personality learning styles. She first reported what had been done by previous studies. Then, she put the word *'however'* as a concessive conjunction to highlight the research gap. After putting in the conjunction, she used an adjective phrase denoting the dearth of literature focusing on examining a specific area (i.e., little attention has been paid). However, she only focused on adding a new issue, and she left off what had been found in previous research studies.

In addition, Excerpt 3 shows another function of the strategy of stressing insufficient research. The authors used an adjective signaling insufficiency (i.e., little is known) as a linguistic feature indicating a research gap. Thus, the statement indicating the research gap as seen in Excerpt 3 functions to give a signal regarding the authors' aims of the study. This strategy can be embedded in the move of occupying a niche, specifically in announcing present research.

### Revealing limitation(s) in previous research

When authors are going to implement certain methods or techniques, or they are going to conduct certain designs of study, they can consider what previous researchers have done. Some authors may identify the shortcomings of previous related studies (Suryani et.al, 2015). They can specifically focus on and point out the methodological shortcomings and weaknesses (Lim, 2012). Based on the data analysis, the strategy of revealing limitation(s) in previous research was found in the corpus of this study.

> *Excerpt 4*
>
> The previous studies give insight that in translating cultural humor in the graphic novel…the translator **\*should\*** consider the paralinguistic elements…\***However\*,** \***different from the previous studies\*,** this present study recognized the challenge in translating cultural humor by applying Vandaele (2002) humor translation theory and classifying the data findings using Newmark (1988, p. 95) proposes five cultural categories of the translation of 'foreign' cultural words. (DS-RAI08)
>
> *Excerpt 5*
>
> \***However\***, as implied in Storch (2013), this model **\*fails\*** to factor in the fluctuating nature of learners' dyadic interaction. That is, this model does not capture the situation in which learners demonstrate various collaboration patterns when discussing different aspects of a CW task. (IA-RAI11)

Excerpt 4 shows that the authors' use of medium modality (i.e., should) indicated that they suggested considering paralinguistic elements, meaning that the previous researchers had not considered those important elements in their studies. Then, the authors indicated their research gap by stating that their method was different from the previous ones. It implied that the authors criticized the methods that had been used by the previous researchers and, with the use of the medium modality, they informed the readers that the proposed method (applying Vandaele's (2002) theory and using Newmark's (1988) classification) was more appropriate than what had been used in the previous studies. Next, Excerpt 5 illustrates that the authors used a verb denoting failure (i.e., fails) to indicate that the model proposed by Storch (2013) could not be used in different situations. It indicated that the authors needed to develop a new model to capture the situation mentioned in the next sentence.

### Contrasting conflicting previous research findings

In this strategy, authors persuade the readers by stating the unfixed findings of past studies. This strategy is used after they have done a meta-analysis to compare several findings related to certain topics to see if there are inconclusive or unclear findings. In this study, the authors in the corpus of this study used this strategy in their RAs.

> *Excerpt 6*
>
> The findings of the studies as reviewed above indicate that the effect of gender on the choice of speaking strategies \***is not yet conclusive\*** and that the correlation between speaking strategies and speaking proficiency \***is not yet clear\***. (DS-RAI03)
>
> *Excerpt 7*
>
> …the **few studies** conducted in L2 writing contexts have produced \***contradictory results\*. \*For instance\*,** Meraji (2011) observed a positive effect of pre-task planning on all aspects of L2 writing. Yet, Ojima (2006) and Ellis and Yuan (2004) found that pre-task planning led to increased fluency and syntactic complexity \***but little change\*** in L2 written accuracy. Johnson, Mercado, and Acevedo (2012) found \***little effect\*** of pre-task planning on the overall L2 writing performance, except \***a small significant effect on fluency\***. (IA-RAI01)

Excerpt 6 illustrates that the authors indicated the inconclusiveness among previous research findings. The statements *"…is not yet conclusive"* and *"…is not yet clear"* indicated that the authors detected the unclear findings regarding the correlation between the two variables. Excerpt 7 shows that the authors had done a meta-analysis related to the topic that was going to be researched. They had compared several previous related research findings, and they found the contradiction then put a phrase indicating uncertainty (i.e., contradictory

results). They also showed the results of reviewing the previous research findings in the next sentences preceded by the use of an example conjunction (i.e., for instance).

### Suggesting solution(s)

According to Kwan et al., (2012), this strategy is used when authors show problems that need to be solved or things that need to be improved. This strategy can be considered a useful strategy to indicate a research gap because it functions to present unresolved problems and suggest solution(s) for the problems (Lindeberg, 2004). In this study, most of the Indonesian doctoral students, Indonesian academics, and international authors used this strategy in their RAs.

> *Excerpt 8*
>
> Pathan says that using **\*podcast\*** with **\*internet\*,** also has plenty of benefits for developing listening…it can be said that when teacher is in the process of teaching listening, he or she **\*should consider those tools\*** and know which tools that can be used to help and applied in the laboratory in the listening class. (DS-RAI04)
>
> **Excerpt 9**
>
> Despite this gap in the research literature, many textbooks **\*suggest\*** the use of collaborative writing tasks to pre-and in-service teachers (Ferris and Hedgcock, 2013: Peregoy and Boyle, 2012). (IA-RAI15)

In Excerpt 8, the author tried to persuade the readers that the tools (i.e. podcast and internet) were good choices for listening classes. She stated '…*should consider those tools'* to indicate a solution. The use of the medium modality (i.e., should) was considered a signal to indicate a gap that she needed to examine the effectiveness of those tools in listening classes. Excerpt 9 illustrates another way of suggesting a solution. They brought in the previous researchers' suggestion that pre-service and in-service teachers focus on collaborative writing tasks. Excerpt 8 and Excerpt 9 show the differences in how the authors conveyed the solutions; the author in Excerpt 8 suggested a solution using her own opinion, while the authors in Excerpt 9 presented a suggestion using their research orientation.

Based on the results of this study, we can conclude that four out of the five strategies to present research gaps were used by the Indonesian ELT doctoral students in their RA introductions section. Meanwhile, the Indonesian academics and international authors in this study used all five strategies in their introductions. In the RA abstracts, only the international authors used the five types of research gap strategies, while the other two groups used four types of research gap strategies (Indonesian academics) and two types of research gap strategies (Indonesian doctoral students). Moreover, the authors, seen from the three corpora, mostly used contrastive discourse markers, i.e., the concessive conjunction *'however'*, to start their statements indicating their research gaps. This conjunction was used more frequently than the other concessive conjunctions found in Lim's (2012) study, such as *'in fact', 'though', 'although', 'even though', 'even if', 'unless', 'yet', 'but', 'despite', 'in spite of', 'whereas', 'nevertheless', and 'notwithstanding'*.

### The Indonesian doctoral students' problems identifying research gaps

Based on the interviews, the results indicated that the ten participants understood what a research gap is. They agreed that presenting research gaps in RAs can give contributions to the body of knowledge, as some participants noted.

> *Excerpt 10*
>
> What I know about a research gap is that it can differ our research to what previous scholars had done. (Jean)
>
> *Excerpt 11*
>
> A research gap is about extending the works of others…my research is collorative writing, some of them examine the effect of the technique in writing a parapgraph and I extend the effect of the technique in writing another text, essay writing maybe. (Rose)

*Excerpt 12*

In my opinion, if my research had been possessed by no one before, I can claim that my study has a novelty. (Dani)

The excerpts above highlight how the participants defined a research gap. Jean defined a research gap as a difference between what previous researchers have done and what will be potentially researched in the future. Rose defined a research gap as the extension of other researchers' studies by adding some variables or changing the focus of the particular study so that it differs from the others. Then, Dani claimed that a research gap is something that has not been done by previous studies so that the particular study can present novelty.

Although the participants knew what a research gap is, they still had problems identifying research gaps during their research activities. We argue that most of the participants only knew the definition of a research gap, but they did not know how to identify the gaps for their proposed studies. Based on the interviews with the participants, some of difficulties they encountered were found.

*Excerpt 13*

I have read many articles…, but I got confused because too many articles that I read. My lecturers always ask to us, read, read, and read…but I did not find the gaps. (Ryan)

We can see that Ryan faced difficulties identifying research gaps after reading RAs. He said that reading many articles could make him confused about what he needed to research. He evaluated the activity and claimed that reading many articles could not help him to get inspiration for conducting research. We argue that he only read the RAs without criticizing what had been studied so that he could not find the research gaps. Moreover, it also happened to some of the participants who had difficulty criticizing previous research studies. Sinta was one of them.

*Excerpt 14*

When I got articles from my lecturers, I just agreed about what the authors did in their research. I do not know why…some are new for me. (Sinta)

The excerpt above illustrates that Sinta encountered problems criticizing previous studies because the topics were quite new for her. As we know, critical reading skills may be used if someone has background knowledge about a certain topic so that he/she can criticize and question what has been studied. Moreover, an author may agree with what previous scholars have done, while others may find limitations in their work. Based on the interview with Lin, she had difficulty identifying the shortcomings of previous research studies.

*Excerpt 15*

Honestly, I got difficulties in finding the shortcomings of previous studies…When I read the article, I felt amazed and I didn't find the weaknessess. (Lin)

Lin was one of the doctoral students who had to read local journals since she was a lecturer in a university. However, when she entered the doctoral program, her supervisors asked her to read international journals. In the process of reading, she thought that all of the authors from international journals had done their research perfectly, and she could not find any weaknesses.

Research gaps can be revealed if authors read and criticize previous studies. However, the difficulties identifying research gaps, in this study, were not simply because of the participants' weaknesses in critical reading skills; two participants had problem with the confidence to criticize other researchers' studies. Thus, feeling small in a discourse community can be a problem when authors try to identify research gaps.

*Excerpt 16*

Sometimes I feel that I have no credibility to judge previous works…especially in criticizing articles published in international journals. I have no experience in publishing articles in international journals. (Rose)

In addition, the lack of guidelines on identifying research gaps can result in confusion when attempting to identify research gaps, as illustrated by the participant below.

*Excerpt 17*

Until now, I cannot find my research gaps especially for my research article. I always ask to my friends where I can find the gap, how I can find it. Since I was in undergraduate program, I did get the ways how to identify the research gaps in research articles…even from the seminars, short trainings…I didn't find concrete explanations how to reveal research gaps. (Tina)

Research gaps may be difficult for authors to identify. Some of them read whole articles and they may still fail to identify the gaps. What happened to Tina indicated that she needed some clear instructions, guidelines, or explanations about strategies for identifying research gaps in RAs.

# Discussion

This study has accomplished its objectives: 1) to investigate Indonesian doctoral students', Indonesian academics', and international authors' strategies for presenting research gaps in their ELT RA abstracts and introductions, and 2) to explore Indonesian doctoral students' problems identifying research gaps during research activities. Based on the comparative analysis carried out in this study, the highest occurrence of the strategies appeared in the international authors' RAs with 12 occurrences in the RA abstracts and 69 occurrences in the RA introductions.

Additionally, all the international authors and some of the Indonesian academics, as seen in the corpora, applied more than one strategy to indicate research gaps in their RAs introductions, and they performed the cyclical pattern of reviewing previous studies and indicating research gaps. This result conforms what was claimed by Swales (1990, 2004), that authors can review previous research studies to identify a research gap, and when they need to identify other gaps, they can continue the same steps cyclically. On the other hand, the Indonesian doctoral students in this study only used one strategy in their RA introductions. This may be due to their lack of understanding of how to criticize previous studies in order to reveal the research gaps. The lack of reading good international journals may also impact the knowledge of writer-responsible rhetoric (Hinds in Fakhri, 2004).

On top of that, the step of presenting positive justification occurred in the introduction section of eleven Indonesian doctoral students' RAs. Of course, every author may use positive justification when they think there is a need for their topics to be researched (Chen & Li, 2019; Samraj, 2002). However, considering that the international authors and some of the Indonesian academics in this study used a variety of strategies to indicate research gaps, it is suggested that ELT authors not only justify their studies by stressing the importance, but they also need to review previous studies to strengthen their arguments that the proposed topics are valuable and meaningful to be researched.

In fact, a lesser application of strategies to present research gaps was found not only in Indonesian doctoral students' RA abstracts and introductions, but also in Iranian authors' RAs. Farnia and Barati (2017), who conducted a comparative analysis, found that Iranian authors whose RAs were published in local journals used fewer strategies for presenting research gaps than native authors whose RAs were published in leading English journals. Additionally, Briones (2012) found that Philippine authors merely showed the purposes of their studies without highlighting previous studies' limitations. The study conducted by Jogthong (2001) also indicated that Thai authors did not provide many critiques to what have been done by previous researchers. These mean that Indonesian, Iranian, Philippine, and Thai authors would prefer to focus on the necessity of their studies and avoid giving critiques to previous studies in their field of study. This may be due to the culture of the authors' countries of origin. For instance, Indonesian culture puts a priority on respecting others, and this may impact activities in which they tend to avoid giving negative evaluation to others, including giving critiques to previous research studies (Adnan, 2014).

Concerning research gap strategies, this study found that the Indonesian doctoral students did not use the strategy of highlighting the complete absence of research bearing a specific characteristic in their RA abstracts

and introductions. Meanwhile, this strategy was the third highest strategy used by the Indonesian academics and international authors in their RA introductions and was used in the same number of occurrences in their RA abstracts. If we refer to previous studies investigating this strategy, some studies found that this strategy was used by their research participants. The study conducted by Lim (2012) indicated that the strategy of highlighting the complete absence of research bearing a specific characteristic was used by experienced management authors. Chen and Li (2019) found that Chinese master's students used this strategy in their literature review sections. Abdolmalaki et al., (2019), who investigated Malaysian students' introduction chapters of their article-based theses, found that they used the phrase '*for the first time*' to claim their studies' novelty. This strategy, unfortunately, was not found in the Indonesian doctoral students' RAs, possibly because they had lack of arguments or strong claims indicating that their topics had not yet been proposed by previous researchers. A lack of confidence might also be the causative factor of why they doubted promoting their studies' novel contributions.

This study also found that the Indonesian doctoral students and Indonesian academics shared a similarity in using the strategy of suggesting solution(s); they used this strategy most frequently in their RA introductions. This strategy functions to solve problems found in previous studies (Lindeberg, 2004). Similar to the field of law in which authors tended to be problem-focused in their RA introductions (Feak & Swales, 2011), authors from the education field, especially in ELT, also identified problems and suggested solutions to solve the problems. This is in line with Rochma et al., (2020) who found that undergraduate students in ELT also conveyed suggestions to indicate their research gaps. However, in this study, this strategy was the second lowest strategy used by the international authors. This difference between the Indonesian authors and international authors might be influenced by the authors' orientation. Having a real-world orientation, Indonesian ELT authors tend to convey suggestions to solve problems found in the process of teaching English. Meanwhile, having a research orientation, international ELT authors tend to identify problems or criticize limitations of previous research studies and propose suggestions to improve the quality of studies in the future. Above all, authors can present problems based on real-world phenomena and suggest solutions (Wang & Yang, 2015), but it would be better if they also develop a stronger research orientation in order to strengthen their arguments that the suggestions are derived not only from what has been experienced but also from previous research evidence.

Then, based on the data analysis, the popular strategy that was used most frequently by the international authors in their RA abstracts and introductions was stressing insufficient research in a specific area. This strategy functions to continue and extend the previous studies about a certain topic. Shehzad (2008) claimed that extending previous studies can be a way to fill a research gap. More clearly, Robinson et al., (2011) indicated that insufficient research can happen because of the limited number of research studies related to a certain area, and the findings are too small to contribute to the body of knowledge. This finding of our study is similar to the finding of a study conducted by Chen and Li (2019) that the strategy of stressing insufficient research in a specific aspect was used the most by Chinese applied linguistics authors in the literature review section. We argue that the strategy can also be used in the introductions, in which the process of reviewing the literature review is integrated within the section.

Although extending the studies of other researchers can create a space for further research (Robinson et al., 2011; Shehzad, 2008; Suryani et al., 2015), it can be better if authors have arguments or give some rationale before stating the need to extend the studies. They may identify the limitations of past studies, for instance in the methodology (i.e., choosing more appropriate tools to collect and analyze the data). Then, they can claim *"few studies …" or "little research has been done related to …"* with strong arguments derived from criticizing previous studies' methodologies.

Contrasting and conflicting previous research findings and revealing limitation(s) in previous research were the least observed strategies in the Indonesian doctoral students' and Indonesian academics' introductions. The study conducted by Chen and Li (2019) also found that Chinese master's students of applied linguistics seldom used these strategies. The rare use of the strategies of contrasting and conflicting previous research findings and revealing limitation(s) in previous research may be due to the psychological aspect of authors who still do not have the feeling of readiness to expose the problems found in previous studies (Taylor & Tingguang, 1991). Highlighting contradictions among previous research studies may also occur when authors find 'provocative' results based on analyzing each research stream, synthesizing, and revealing contradictory evidence (Muller-Bloch & Kranz, 2014). These two strategies may be optimally used if authors collect many

relevant references and conduct a meta-analysis so that they can clearly identify the contradictions among previous research findings. Much differently, the strategy of revealing limitation(s) in previous research was the second highest strategy used by the international authors in this study. This strategy can be used if authors have wide knowledge in a certain area so that they can criticize and identify limitations or shortcomings of previous studies.

Concerning Indonesian doctoral students' understanding of the concept of a research gap, the present study has shown that the Indonesian doctoral students understood what a research gap is, and they also agreed that research gaps in RAs can propose novel contributions to the advancement of knowledge. The students' understanding of a research gap might be due to their background knowledge and experience. The introduction of a research gap had been taught by their lecturers in the course of academic writing (Suryani et al., 2015), and they presented research gap(s) in their respective RAs as a compulsory step in establishing a niche (Swales, 1990, 2004).

However, the Indonesian doctoral students still encountered problems identifying research gaps during their research activities. Based on the interviews carried out, the students had a lack of critical reading skills so that they found it difficult to reveal the limitations of previous studies. Meanwhile, critical reading skills are pivotal for students in higher education who are conducting studies because they can identify issues with reasoning, evaluating, and analyzing arguments (Ruggiero, 2012). Based on the interviews with the participants, they also had doubts about criticizing previous studies. They were not ready to criticize previous studies (Farnia & Barati, 2017; Taylor & Chen, 1991) due to several reasons: feeling small in a discourse community and feeling afraid of revealing the weaknesses of what previous scholars had done in their studies.

Indonesian authors come from culture that prioritizes respecting other researchers' studies so that they tend to avoid giving negative evaluations of those studies (Adnan, 2014). Meanwhile, according to Sheldon (2011, p.244), every author needs to give evaluations by "detailing perceived limitations" of what had been done by previous scholars in their studies. Therefore, Indonesian authors should criticize and propose improvements based on the shortcomings identified in the previous studies. One way to increase their critical reading skills is through collaborative research activities. Collaborative activities have benefits such as increasing students' understanding of identifying research gaps and getting inspirations from the members to conduct studies. We would prefer Loes and Pascarella's (2017) suggestion that both female and male students need to create small groups and the members of the groups engage in discussions to increase their critical thinking skills. By doing this, it can be possible for them to find research gaps based on the results of the discussion in their collaborative activities.

## Conclusions and Implications

This study aimed to investigate Indonesian doctoral students', Indonesian academics', and international authors' use of strategies to indicate research gaps in their ELT RA abstracts and introductions. The strategies investigated were: highlighting the complete absence of research bearing a specific characteristic, stressing insufficient research in a specific aspect, revealing limitation(s) in previous research, contrasting conflicting previous research findings, and suggesting solution(s). The results of this study demonstrated some important points. First, all five strategies to indicate research gaps were used by the international authors in their RA abstracts and introductions. Second, the Indonesian academics also used all five strategies in their RA introductions, but they did not use the strategy of revealing limitation(s) in previous research in their RA abstracts. Third, the Indonesian doctoral students did not use the strategy of highlighting the complete absence of research bearing a specific characteristic in their RA introductions, and they only used the strategies of stressing insufficient research in a specific aspect and suggesting solution(s) in their RA abstracts. The similarities and differences in using the strategies among the three groups of authors can be used to demonstrate how different groups of authors used the types of research gap strategy in their ELT RAs.

Furthermore, this study also aimed to explore the problems faced by Indonesian doctoral students in identifying research gaps during research activities. The results of this study indicated that the Indonesian doctoral students encountered problem criticizing previous research studies reported in the articles that they had read. Some of them also had difficulty identifying the limitations of previous research studies. Some of them were

not confident giving critiques to what had been done by previous scholars. Thus, Indonesian doctoral students need guidance, especially on identifying research gaps and indicating the research gaps in their RA abstracts and introductions.

Although this study provides insightful and meaningful information on the use of strategies to indicate research gaps, it has some limitations that should be considered for future studies. This exclusive study's findings, which focused only on ELT RA abstracts and introductions, may not be generalizable across wider contexts and other disciplines. Thus, a larger corpus of RAs in different disciplines may provide a wider description of the application of strategies to indicate research gaps. Also, more research participants may result in more accurate insights for genre analysts and instructors to solve students' problems in identifying research gaps.

Importantly, this study provides pedagogical implications that can help students and other non-native and novice authors indicate research gaps. First, authors need to focus more on using the strategy of revealing shortcomings or limitations of previous studies. Journal reviewers can be impressed if authors review previous related studies, criticize them, and highlight some shortcomings or limitations of the studies. We recommend that authors criticize the sections of methodology and results sections in RAs since the weaknesses of the studies can be potentially revealed in these sections. The conclusions and suggestions for further research sections are also areas where limitations can be found. Some researchers may state their studies' weaknesses in these sections, hoping that future researchers will improve on their studies.

Second, in terms of reading RAs, the RAs with relevant topics published within the last five years can be helpful to maintain the existence of the topics that are being studied. In the process of reading RAs, critical reading strategies should be considered in order to help readers, as future authors, evaluate what have been done in previous research studies. For example, the strategies proposed by Sousa (2006) can be used as guidelines while reading RAs, namely previewing, contextualizing, questioning to understand and remember, reflecting on challenges to beliefs and values, outlining and summarizing, evaluating an argument, and comparing and contrasting related readings.

Third, small group discussions can also be important activities for students while writing RAs. Authors should try to discuss their respective studies and share ideas related to what can be investigated for further studies. In these discussions, they can share the possible research gaps, too. Radzuan, Ali, Mohammed, and Yusof (2018) also advocated for the view that a small group discussion can be a way to provide opportunities among peers to share and solve problems together. Furthermore, we suggest that curriculum developers and lecturers provide a mentoring course that aims to engage the students in higher education in writing RAs for publication. Likewise, universities in China provide a course on English-language academic writing to guide EFL students in academic writing (Teng, 2019).

## Conflicts of interest

The authors declare that they have no conflicts of interest.

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# Appendix 1

**Strategies to indicate research gaps**

| No. | Strategies (key words) | Linguistic features | Examples |
|---|---|---|---|
| 1 | Absence | Concessive conjuncts (adverbs) | Nevertheless,… |
| | | | Yet,… |
| | | | However,… |
| | | Concessive conjuncts (prepositional phrases) | Despite this research…,… |
| | | | …remains largely a mystery. |
| | | | Notwithstanding these views,… |
| 2 | Insufficient | Adjectives modifying nouns | Relatively unexplored |
| | | | Understudied phenomenon |
| | | Adjectival premodifiers of nouns | Limited information |
| | | | Sporadic evidence |
| 3 | Limitation(s) | Negative verb phrases | Do not sufficiently explain… |
| | | | Do not explicitly consider… |
| | | | Has not addressed… |
| 4 | Contrasting evidence | Phrases denoting uncertainty | Ambiguity… |
| | | | Mixed evidence… |
| | | | Lack of consensus… |
| | | Adjective phrases denoting uncertainty | Conflict with… |
| | | | Inconsistent with… |
| 5 | Suggesting solution(s) | Phrases denoting suggestion | ..previous studies suggest that |
| | | | It is suggested… |

# Appendix 2

**Interview Guidelines**

1. Please introduce yourself, and tell me where you live and work.
2. Have you had publications since you first became a lecturer in that university? If no, why not?
3. How many publications do you have?
4. What are the kinds of articles of yours that have been published?
5. Research articles should have novel contributions to the advancement of knowledge. Do you agree with that?
6. Have you ever heard about a research gap? What do you know about research gaps?
7. In which parts of a research article do we present research gap(s)?
8. Have you ever had any problem in identifying research gaps so far?