

# A Study of Needs Analysis for English Majors' Academic Writing in English

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## ABSTRACT

The present study aimed—1) to explore the English majors' learning needs on academic writing in English; and 2) to investigate whether the level of English proficiency affect the English majors' learning needs for academic writing in English. A total of 104 English majors of Tongren University participated in the study. Three instruments were conducted to collect data, including questionnaire, writing test and interview. First, the questionnaire was combined with the interview to investigate the learning needs of English majors for this course. Second, the writing test was conducted for the learners, who participated in the questionnaires, to distinguish their level of English proficiency. Data analysis was carried out as follows: Firstly, a descriptive analysis plus a content analysis were used to explore the answer of the first research question. Second, an independent samples T-test was conducted to answer the second research question. The findings showed that: 1) English majors have 4 different needs in writing. They are, writing resources needs, language needs, subject knowledge and academic literacy needs and rhetoric needs. Among them, the needs of academic writing *resources* were the most prominent; 2) the level of English proficiency significantly influenced English majors' learning needs in 3 aspects, including rhetoric needs, subject knowledge and academic literacy needs, and writing resources needs.

## KEYWORDS

Academic writing in English; Needs analysis; English learning

## 1 Introduction

English plays a critical role in learning and international publication (Xue, 2018). For this reason, the skills for academic writing in English are necessary for learners to complete their degree studies. In China, English majors with a bachelor's degree or above must finish their dissertations in English to obtain a diploma. In this case, English majors' needs analysis of academic writing in English can be very important to develop their interest by meeting their needs for this course.

The research of needs analysis at abroad has a history of more than 30 years. However, the domestic research on academic English writing is relatively backward (Liu, 2020). To some extend, the needs of English majors for academic writing in English might not be fully realized, perhaps leading to a negative impact on their learning. To address this problem, their needs analysis for academic writing in English is becoming demanding for teachers, particularly teachers in this field.

Despite the importance of learning this course, its difficulties still brings all kinds of troublesome to English majors. Possibility, this was due to the fact that the difficulties faced by them are not only at the level of grammar and vocabulary, but also at the level of coherence and organization, as well

as academic and cultural issues, such as genre norms and reader consciousness (Ma et al., 2015). Therefore, we should be more targeted to understand the needs of learners in different aspects for the purpose of facilitating their academic writing in English.

With these in mind, the objectives of this study were 1) to explore the English majors' learning needs on academic writing in English; 2) to investigate whether the level of English proficiency affect the English majors' learning needs for academic writing in English. The significance of the study was listed as follows: First, for English majors, the findings of this study can help them to better understand their needs for this course. Second, for teachers in this field, this might be helpful for them to adjust their teaching timely according to their needs. Finally, the findings are likely to provide some insights for the design of teaching syllabus, thus making the course more consistent with the learning needs of English majors.

## 2 Review of Literature

A number of scholars are paying attention to the needs analysis for academic writing in English, and conducting research on this topic (e.g. Xue, 2018; Cai, 2019; Chen, 2021). For example, Xue (2018) took 110 English majors as the research subject, exploring the characteristics of English majors' needs in EAP (English for Academic Purposes). The results showed that the main purpose of English majors in academic writing is to complete their academic requirements, while their demand for the knowledge of academic writing is concentrated in the extracurricular resources, regular expression, and discourse logic. Cai (2019) surveyed 2640 students of Grades 2 and 4 and 266 teachers from 17 different universities. It was found that teachers and students both have a strong need to engage in professional learning in English. Later, Chen (2021) took 234 undergraduates in the field of chemistry as the research subjects to investigate their needs for international publication by the use of questionnaires and interviews.

Similarly, some scholars tried to explore their needs of academic writing in English by investigating postgraduates of non-English majors (e.g. Jiao, 2017; Wang, 2018; Zhang, 2019; Zhou, 2021; Chemir & Kitila, 2022). For instance, Jiao (2017) adopted the needs analysis theory of Hutchinson and Waters (1987) to survey 392 postgraduates of non-English majors' needs in the EAP course. The findings revealed that participants have target needs and learning needs in academic writing. In terms of target needs, learners lack ability of academic writing in English, so they are expected to be offered academic English courses. Regarding learning needs, learners focus on project-based tasks in the academic context. Wang (2018) tried to analyze the learning needs of 186 science and engineering majors in EAP by questionnaire and interview. The survey displayed that the science and engineering majors have different needs for English academic writing in 5 aspects. They are, academic writing purposes, language needs, rhetoric needs, academic literacies and discipline knowledge needs, and writing resources needs. Among them, the language needs and wrting resources needs are the most prominent.

In Zhang's (2019) research, questionnaire and semi-structured interview were employed to investigate 211 postgraduates of non-English majors' needs in EAP writing. The research indicated that learners have different needs in aspect of writing purposes, language, rhetoric, culture and professional knowledge, and writing resources. Zhou (2021) selected 504 non-English majors from Guangxi University to investigate their needs based on the needs analysis theory of Hutchinson and Waters (1987). The findings suggested that the requirements of non-English majors include target needs and learning needs in EAP courses. Chemir and Kitila (2022) used a questionnaire and interview for data collection. In total, 308 students of Grade 1 and 41 teachers from the College of Social Sciences and Humanities, Wachemo University, participated in the study. The findings

indicated that learners have instrumental and integrative motivation for learning English. In this case, they learn English because it is useful for job-hunting and further-study, rather than pursuing academic courses at the university. Yet, some of them with integrative motivation learn English because they like the language and its culture. In sum, from the perspective of research participants, most of the previous studies focus on postgraduates or non-English majors. There is a lack of research on the needs of undergraduate majoring in English. With this in mind, this study took English majors of Tongren University as participants 1) to explore the English majors' learning needs on academic writing in English; 2) to investigate whether the level of English proficiency affect the English majors' learning needs for academic writing in English.

### 3 Research Methodology

#### 3.1 Research Questions

- (1) What are the English majors' learning needs for academic writing in English?
- (2) Does the level of English proficiency affect the English majors' learning needs for academic writing in English? If so, how does it affect the English majors' learning needs?

#### 3.2 Participants

A total of 104 English majors of Grade 2020 from Tongren University participated in the study, including 34 from Class 1, 42 from Class 2, and 28 from Class 3. According to the requirements of curriculum, all the participants have completed the coursework of academic writing in English.

#### 3.3 Instruments

##### 3.3.1 Questionnaire

The purpose of this questionnaire was to investigate the needs of English majors on academic writing in English. The questionnaire employed in this study was adapted from that in the study of Zhang (2019). This was because the classification of dimension was reliable for the purpose of exploring the needs analysis of learners. Thus, we investigated English majors' needs for this course from the 4 dimensions: *language needs*, *rhetoric needs*, *subject knowledge and academic literacy needs*, and *writing resources needs*. The questionnaire consisted of two parts: the first part was the background information of English majors. The second part was the scale to explore learners' needs for this course. Each dimension was composed of multiple choice questions and one open-ended question. Together, it contained 32 questions (in which, 3 for background information), using the Likert Scale and being designed in a format ranging from 1 to 5 (1=strongly disagree, 2=disagree, 3=uncertain, 4=agree, 5=strongly agree). The structure of the questionnaire was detailed in Table 1.

Table 1 The Structure of the Questionnaire

| Dimension | Items                                                | NO. of Items |
|-----------|------------------------------------------------------|--------------|
| One       | <i>Language needs</i>                                | A1-A9        |
| Two       | <i>Rhetoric needs</i>                                | B1-B7        |
| Three     | <i>Subject knowledge and academic literacy needs</i> | C1-C6        |
| Four      | <i>Writing resources needs</i>                       | D1-D7        |

The reliability and validity of this questionnaire was tested by Cronbach's alpha and KMO values, respectively. The value of Cronbach's alpha was 0.880 and KMO was 0.810. Both coefficients exceeded 0.7, indicating that it was acceptable in this study (Qin, 2003).

Table 2 Reliability Statistics

| Cronbachs' Alpha | KMO   |
|------------------|-------|
| 0.880            | 0.810 |

### 3.3.2 Writing Test

This study used the final score of the term project for the coursework of academic writing in English to divide learners' English proficiency level into 2 groups, namely groups with higher and lower English proficiency level. Since the final paper of term project carried out by English majors of Grade 2020 was a constant revision process, so they required completing the first draft, second draft, third draft and final draft of the paper within 19 weeks under the guidance of the teacher. The average length of term paper was about 4,000 words. In this process, the purpose of the writing term paper was achieved. This was in line with their English proficiency level, so this score had reliability and validity.

According to the scores being rated from high to low, the top 30% of English majors were classified into the group with higher English proficiency level, and the bottom 30% were divided into the group with lower English proficiency level. In fact, the number of 2 groups was 70, 35 for each. This allowed for a further investigation into how English major's proficiency level impacted their needs for academic writing in English.

### 3.3.3 Interview

To further understand English majors' needs for academic writing in English, 10 learners were randomly selected from the questionnaire survey to participate in the interview (The abbreviation S stands for the students). The interview questions were listed as follows:

- (1) Language needs: What are your language needs for learning academic writing in English?
- (2) Rhetoric needs: What are your rhetoric needs for learning academic writing in English?
- (3) Subject knowledge and academic literacy needs: What are your subject knowledge and learning literacy needs for learning academic writing in English?
- (4) Writing resources needs: What are your writing resources needs for learning academic writing in English?
- (5) Other needs: 1) What else do you need for learning academic writing in English? 2) What else would your teacher for academic writing in English to teach? and 3) What kind of teaching method is better?

## 3.4 Data Collection and Data Analysis

The questionnaires for this study were distributed and collected by the program. In total, 132 questionnaires were issued from 20 August 2023 to August 25, 2023. In the end, a total of 110 questionnaires were gathered, yielding a valid response rate of 104. The effective recovery rate was 79%. Then, the semi-structured interview was conducted at the end of August, 2023, recorded by electronic devices and presented with the aid of WORD software.

Data analysis was carried out as follows: Firstly, a descriptive analysis plus a content analysis were used to explore the answer of the first research question. Second, an independent samples T-test was conducted to answer the second research question.

## 4 Results and Discussion

In response to the research questions, a detailed report and discussion of the results were

describe as follows.

#### 4.1 English Majors' Learning Needs on Academic Writing in English

##### 4.1.1 The English Majors' Overall Learning Needs on Academic Writing in English

A survey has been conducted to investigate the English majors' overall learning needs on academic writing in English. Based on the classification of learning needs by Zhang' study (2019), the results were reported and discussed in 4 dimensions: *language needs*, *rhetoric needs*, *subject knowledge and academic literacy needs*, and *writing resources needs* (see in Table 3).

**Table 3** The Results of the English Majors' Overall Learning Needs on Academic Writing in English

| The Classification of Learning Needs          | N   | Mean | SD   | Min | Max |
|-----------------------------------------------|-----|------|------|-----|-----|
| Writing resources needs                       | 104 | 3.54 | 0.66 | 1   | 5   |
| Language needs                                | 104 | 3.48 | 0.54 | 1   | 5   |
| Subject knowledge and academic literacy needs | 104 | 3.44 | 0.71 | 1   | 5   |
| Rhetoric needs                                | 104 | 3.40 | 0.65 | 1   | 5   |
| Overall Needs                                 | 104 | 3.47 | 0.51 | 1   | 5   |

According to Table 3, English majors have strong needs in the 4 aspects, since the mean values associated with *overall needs* exceeded the threshold of 3. First of all, *academic writing resources needs* accounted for the largest proportion of all learners' needs (Mean=3.54 SD=0.66), possibly suggesting that they need more online resources for facilitating academic writing in English and need to search for literature by using available online database. Followed by *language needs*, it was also required by English majors (Mean=3.48 SD= 0.54), revealing that they may have difficulties in the use of languages, such as vocabulary, phrases, and grammar. Thirdly, the mean value of *subject knowledge and academic literacy* (Mean=3.44 SD=0.71) implied that they were eager to improve their subject knowledge and develop their academic literacy. The last one is *rhetoric needs* (Mean=3.40 SD=0.65), demonstrating that academic rhetoric were required by them, for example, coherence and coherent. The results of needs analysis were further reported and discussed in the following 4 dimensions respectively.

##### 4.1.2 Language Needs

In this section, the investigation of language needs was used to find out the language difficulties faced by English majors during the process of writing. It involved 8 items as below.

**Table 4** The Results of Descriptive Analysis of Language Needs

| Items | N   | Mean | SD   | Min | Max | Frequency(%) |      |      |      |      |
|-------|-----|------|------|-----|-----|--------------|------|------|------|------|
|       |     |      |      |     |     | 1            | 2    | 3    | 4    | 5    |
| A3    | 104 | 3.86 | 1.03 | 1   | 5   | 3.8          | 6.7  | 17.3 | 44.2 | 27.9 |
| A2    | 104 | 3.70 | 0.90 | 1   | 5   | 1.9          | 6.7  | 27.9 | 17.3 | 46.2 |
| A1    | 104 | 3.44 | 1.03 | 1   | 5   | 4.8          | 14.4 | 24.0 | 45.2 | 11.5 |
| A7    | 104 | 3.44 | 1.07 | 1   | 5   | 5.8          | 13.5 | 25.0 | 42.3 | 13.5 |
| A8    | 104 | 3.43 | 0.90 | 1   | 5   | 1.9          | 14.4 | 29.8 | 46.2 | 7.7  |
| A6    | 104 | 3.38 | 1.05 | 1   | 5   | 6.7          | 11.5 | 30.8 | 39.4 | 11.5 |
| A5    | 104 | 3.34 | 1.00 | 1   | 5   | 3.8          | 17.3 | 29.8 | 39.4 | 9.6  |
| A4    | 104 | 3.28 | 0.92 | 1   | 5   | 1.9          | 16.3 | 43.3 | 28.8 | 9.6  |

The top 3 language needs of learners covered: 1) *learn regular expressions from published papers* (A3) (Mean=3.86 SD=1.03); 2) *the use of common phrases and fixed sentence patterns*(A2) (Mean=3.70 SD=0.90); and 3) *vocabulary*(A1) (Mean=3.44 SD=1.03) and *translation*(A7) (Mean=3.44 SD=1.07).

While, the least mean value was observed for the *complex sentence pattern* (A4) (Mean=3.28 SD=0.92). The results confirmed that: 1) about 56.7% of English majors didn't know how to choose the right vocabulary when writing up academic papers in English (A1). This was consistent with the findings of Wang's (2018) study, revealing that language difficulties faced by learners were reflected in limited vocabulary size; 2) More than half of the learners tended to use common phrases and sentence patterns in writing (A2) and 72.1% of learners preferred to learn the regular expression from the articles published internationally (A3); 3) Approximately 49% of learners believe that differences in grammatical structures hinder their writing fluency (A5), while 55.8% of learners have a habit of composing in Chinese first and then translating into English (A7). This underscores the necessity for English majors to deepen their understanding of the grammatical distinctions between English and Chinese, as well as enhancing their translation skills; 4) More than 50% of learners were confused about the use of tense in academic English writing (A6) and were prone to other grammatical errors (A8), indicating that some learners have difficulties in the use of grammar.

Next, we reported the results from the interview to further understand learners' language needs for writing papers in English.

(1) *"In writing academic papers, I often grapple with the challenge of selecting the appropriate tense, yearning to pinpoint errors in my composition and to highlight the art of its proper use."* (S1, S3, S6)

(2) *"I acknowledge the limitations of my grammatical proficiency; hence, I eagerly anticipate receiving precise and comprehensive grammar guidelines to refine my language skills."* (S2, S4)

(3) *"I often find myself mired in the intricacies of grammar, struggling to differentiate between its various knowledge points. I yearn for my teacher's guidance to meticulously organize and clarify these complexities."* (S7)

(4) *"Often, my written expressions bear the signs of a lingering Chinglish influence. I eagerly anticipate the guidance of my teacher, whose keen eye for syntax and structure will meticulously refine the composition."* (S8)

(5) *"In the realm of academic writing, I often find myself lost amidst a labyrinth of lengthy and complex sentences. This complexity can lead to confusion, hindering my comprehension and clarity. I hope teachers can teach more reading skills and identify regular sentence patterns in academic writing."* (S5)

By the use of questionnaire and interview, we ascertained that learners' language needs were predominantly manifested in the realm of grammar, with a particular emphasis on tense usage. Moreover, they desired to learn regular expressions, prevalent phrases and sentence patterns from the papers published internationally.

#### 4.1.3 Rhetoric Needs

The exploration of rhetorical needs served as a pivotal instrument for unraveling the intricate tapestry of learners' requirements within the domain of rhetoric. These were identified and listed as follows, ensuring a thorough examination of the learners' rhetorical needs.

Table 5 Results of Descriptive Statistics of Rhetoric Needs

| Items | N   | Mean | SD   | Min | Max | Frequency(%) |      |      |      |      |
|-------|-----|------|------|-----|-----|--------------|------|------|------|------|
|       |     |      |      |     |     | 1            | 2    | 3    | 4    | 5    |
| B3    | 104 | 3.52 | 0.87 | 1   | 5   | 3.8          | 5.8  | 32.7 | 50.0 | 7.7  |
| B2    | 104 | 3.52 | 0.95 | 1   | 5   | 3.8          | 8.7  | 30.8 | 45.2 | 11.5 |
| B6    | 104 | 3.42 | 0.81 | 1   | 5   | 2.9          | 6.7  | 40.4 | 45.2 | 4.8  |
| B4    | 104 | 3.35 | 0.94 | 1   | 5   | 3.8          | 12.5 | 37.5 | 37.5 | 8.7  |
| B1    | 104 | 3.28 | 1.09 | 1   | 5   | 8.7          | 12.5 | 31.7 | 36.5 | 10.6 |
| B5    | 104 | 2.70 | 0.85 | 1   | 5   | 5.8          | 34.6 | 46.2 | 10.6 | 2.9  |

In terms of rhetoric, learners' needs were reflected in the transitional words, coherence and organization of the article. The mean value indicated that transition words (B2) (Mean=3.52 SD=0.95) and the logic between sentences (B3) (Mean=3.52 SD=0.87) were the primary needs for learners. From Table 5, we observed that 1) over one-third of participants admitted to emulating the format of papers published internationally (B1) during their compositions, yet 56.7% of participants confessed to struggling with the artful deployment of transitional words (B2). This discrepancy suggests a pressing need for a comprehensive learning of transition words and dedicated practice to understand their proper usage; 2) approximately 57.7% of learners exhibited a deficiency in prioritizing the logical nexus between sentences during the writing process (B3), leading to unconsciously deviate from the subject in English academic writing (B4); 3) few participants could argue their views in English (B5), and some of them didn't know how to organize scattered sentences into a coherent paragraph (B6). The results are in line with Zou's (2017) finding that learners must develop the critical skill of constructing a organized discourse. This ability is not merely a trivial aspect of academic writing; rather, it is a cornerstone that underpins effective communication in English.

The learners' perspectives on their rhetorical needs revealed a spectrum of insights as follows.

(1) *"I often find myself faltering in the absence of a structured outline. The lack of a well-defined outline results in a disjointed and lackluster narrative, failing to convey my thoughts with the necessary coherence and logic. So, I need an outline before writing papers."* (S1, S2, S5)

(2) *"I cant' use the proper transitional phrases to link each paragraph. Lacking the precision of transitional phrases, I often find my paragraphs lacking cohesion. This awareness leads me to seek guidance from published papers and the proper use of transitions in the works of accomplished writers."* (S6, S7, S8)

In conclusion, it became evident that English majors harbor a profound need for the establishment of logical relationships between sentences, as well as the strategic deployment of transitional words.

#### 4.1.4 Subject Knowledge and Academic Literacy Needs

Table 6 presented learners' needs for subject knowledge and academic literacy in the following 5 items.

**Table 6** Results of Descriptive Statistics of Subject Knowledge and Academic Literacy Needs

| Items | N   | Mean | SD   | Min | Max | Frequency(%) |      |      |      |      |
|-------|-----|------|------|-----|-----|--------------|------|------|------|------|
|       |     |      |      |     |     | 1            | 2    | 3    | 4    | 5    |
| C2    | 104 | 3.76 | 0.77 | 1   | 5   | 1.0          | 4.8  | 24.0 | 57.7 | 12.5 |
| C1    | 104 | 3.64 | 0.97 | 1   | 5   | 2.9          | 9.6  | 24.0 | 47.1 | 16.3 |
| C3    | 104 | 3.53 | 0.92 | 1   | 5   | 2.9          | 5.8  | 42.3 | 33.7 | 15.4 |
| C5    | 104 | 3.28 | 1.01 | 1   | 5   | 5.8          | 13.5 | 37.5 | 33.7 | 9.6  |
| C4    | 104 | 2.99 | 0.98 | 1   | 5   | 9.6          | 17.3 | 39.4 | 31.7 | 1.9  |

The findings displayed that learners' needs were expressed in both academic literacy and subject knowledge. For *academic literacy*, learners were eager to *be familiar with the standards of academic norms* (C2) (Mean=3.76 SD=0.77). For *subject knowledge*, learners demanded a high level of *academic English in writing* (C1) (Mean=3.64 SD=0.97), *writing up the dissertation* (C3) (Mean =3.53 SD=0.92). The last two requirements for learners involved *actively pursuing writing skills to gain access to a broader range of specialized literature resources* (C5) (Mean=3.28 SD=1.01) and *publishing academic papers in journals*(C4) (Mean=2.29 SD=0.98). Consequently, it can be concluded that 1) more than half of the learners deemed that their major required a high level of academic writing in English (C1); 2) about 70.2 % of the learners confessed a lack of familiarity with the standards of academic

conventions. This gap had a tangible impact on their proficiency in writing English papers (C2). Additionally, 49.1% of learners were unsure whether they can write their academic papers well (C3), indicating that some of them might not feel confident with their own writing performance.

Some learners also had their views on subject knowledge and academic literacy needs. The statements were listed as follows:

(1) *"I am committed to ensuring that my dissertation meets the high standards required for the successful defense of graduation. While I have no plans for publication, I recognize the value of expert guidance in refining my academic writing."* (S2, S3, S4, S6, S7, S8, S9, S10)

(2) *"I am not driven by the desire for the publication. Although I understand that the publication process is a rigorous validation of my work's quality, I am eager to benefit from the expertise and experience of my professors in the process of writing."* (S1)

(3) *"I hope I can write academic papers in English successfully. The prospect of publishing a paper never crossed my mind, but I am eager to receive the feedback from my teachers."* (S5)

Overall, learners had high needs for both subject knowledge and academic literacy, however, the thought of contributing to scholarly publications seemed remote to most students.

#### 4.1.5 Writing Resources Needs

The learners' writing resources needs were reported in Table 7 below.

Table 7 Results of Descriptive Statistics of Writing Resources Needs

| Items | N   | Mean | SD   | Min | Max | Frequency(%) |      |      |      |      |
|-------|-----|------|------|-----|-----|--------------|------|------|------|------|
|       |     |      |      |     |     | 1            | 2    | 3    | 4    | 5    |
| D3    | 104 | 3.87 | 0.90 | 1   | 5   | 1.9          | 5.8  | 18.3 | 51.0 | 23.1 |
| D5    | 104 | 3.77 | 0.96 | 1   | 5   | 2.9          | 6.7  | 22.1 | 47.1 | 21.2 |
| D6    | 104 | 3.71 | 0.96 | 1   | 5   | 4.8          | 1.9  | 29.8 | 44.2 | 19.2 |
| D1    | 104 | 3.38 | 1.03 | 1   | 5   | 5.8          | 9.6  | 39.4 | 31.7 | 13.5 |
| D4    | 104 | 2.98 | 1.10 | 1   | 5   | 11.5         | 21.2 | 29.8 | 32.7 | 4.8  |
| D2    | 104 | 2.45 | 0.84 | 1   | 5   | 9.6          | 46.2 | 35.6 | 6.7  | 1.9  |

In terms of writing resources, the first requirement was the course of *academic writing in English* (D3) (Mean=3.87 SD=0.90), followed by *the suggestions from professional teachers* (D5) (Mean=3.77 SD=0.96), and the last one was *the online learning resource* for this course (D6) (Mean=3.71 SD=0.96). The lowest mean value was found in the inability to proficiently utilize database and online network resources for literature search (D2) (Mean=2.45 SD=0.84). It can be seen from Table 7: 1) Nearly half of the learners expressed a strong preference for the course of academic writing in English that are stretched across multiple semesters (D1), since 74.1% of participants believed that this course was helpful for them in writing their dissertations (D3); 2) and 68.3 % of them expressed a keen interest in receiving guidance from the teachers. (D5); 3) unfortunately, some learners don't have much opportunity to communicate with the teachers for their writing feedback (D4). As a result, more than 60% of learners wanted to have more online learning resources (D6). The result was consistent with previous research, in which Peng (2011) claimed that learners need more time to practice writing and attend more academic writing courses.

Some participants agreed that it was necessary to use on line resources when writing. Here were their statements:

(1) *"I can get enough network resources, using the database to search the literature."* (S1, S6, S7, S9)

(2) *"I can refer to relevant books and online courses when learning academic English writing."* (S2, S3)

(3) *"Upon completing the academic writing course, I will acquire the essential skills and knowledge to write a dissertation."* (S8)

(4) *"When learning academic English writing, teachers can answer my questions targeted."* (S5)

(5) *"I hope to get guidance from the teacher after class."* (S10)

In conclusion, *online learning resources* and *using database to search literature* were the primary needs for English majors. Also, learners were eager for the opportunity to communicate with teachers and get their advice. Upon inquiring about the preferred teaching content among participants, their response were listed as follows:

(1) *"I like to learn more primary knowledge, writing skills, paper framework and language use."* (S1, S3, S6, S7, S9)

(2) *"I am eager to engage in exercises that focus on logical connectivity, as a means to sharpen my analytical thinking skills."* (S2)

(3) *"I hope to master academic vocabulary and sentences, laying good foundation for academic writing in English."* (S8)

(4) *"I aspire for our teachers to assign us concise, manageable assignments, like reading the literature regularly and sharing what we have learned."* (S5)

(5) *"Before writing academic papers in English, it is imperative to have a firm grasp on the pertinent research methodologies."* (S10)

As for another aspect of learning needs, some learners expressed their viewpoints.

(1) *"I really need operational courses with SPSS technology because online operation video is a bit difficult for me."* (S1, S4, S5)

(2) *"I desire to improve my listening and speaking ability of academic English writing for passing the defense of the graduation thesis."* (S2, S3)

(3) *"I hope to enrich my writing content, improving my level of academic writing."* (S7)

(4) *"I hope to increase the number of academic writing courses, because it is too short for me to fully understand the course."* (S10)

Students have further articulated the need for the curriculum to encompass more foundational knowledge, such as refining writing skills, understanding the structure of academic papers, and mastering language use. Additionally, there is a strong demand for improving learners listening and speaking performance for effective academic communications. Lastly, there is an expressed interest in the use of SPSS, thereby providing English majors with practical skills in data analysis and research methodology.

## 4.2 The English Proficiency Level and English Majors' Learning Needs for Academic English Writing

In this section, the present study used the independent sample T-test to investigate whether the level of English proficiency affect the English majors' learning needs for academic writing in English. The results were present in the Table 8 below.

The result showed that learners' English proficiency level affected the learning needs of learners. The first was the needs for *rhetoric* and *subject knowledge and academic literacy* ( $P < 0.01$ ), followed by the needs for *writing resources* ( $P < 0.05$ ). That is, learners had the significant differences in the

Table 8 Results of the English Proficiency Level and Learning Needs

| Items                                         | High Proficiency<br>Group (n=35) |      | Low Proficiency<br>Group (n=35) |      | t     | p      |
|-----------------------------------------------|----------------------------------|------|---------------------------------|------|-------|--------|
|                                               | Mean                             | SD   | Mean                            | SD   |       |        |
| Language Needs                                | 3.63                             | 0.51 | 3.44                            | 0.54 | 1.535 | 0.129  |
| Rhetoric Needs                                | 3.63                             | 0.41 | 3.07                            | 0.77 | 3.80  | <0.001 |
| Subject Knowledge and Academic Literacy Needs | 3.69                             | 0.51 | 3.03                            | 0.78 | 4.303 | <0.001 |
| Writing Resources Needs                       | 3.70                             | 0.50 | 3.21                            | 0.77 | 3.189 | 0.002  |

$P \leq 0.05$   $P < 0.001$

needs for *writing resources*, *rhetoric*, *subject knowledge* and *academic literacy*, with their p-values being infinitely close to 0.

#### 4.2.1 Language Needs

The varying levels of English proficiency significantly influence the linguistic needs of learners. In particular, low proficiency learners often struggle with the selection of appropriate vocabulary (A1). In contrast, higher proficiency learners had their own learning style. They not only used common phrases and fixed sentence patterns (A2), but also ventured into employing complex sentence structures (A4). This can be attributed to the fact that as higher proficiency learners were good at learning regular expressions from papers published internationally (A3), thus improving their learning efficiency.

Table 9 Results of the English Proficiency Difference in Language Needs

| Language Needs | High Proficiency Group<br>(n=35) |      |      | Low Proficiency Group<br>(n=35) |      | t      | p     |
|----------------|----------------------------------|------|------|---------------------------------|------|--------|-------|
|                | Items                            | Mean | SD   | Mean                            | SD   |        |       |
|                | A1                               | 3.47 | 1.01 | 3.69                            | 0.87 | -0.961 | 0.34  |
|                | A4                               | 3.47 | 0.83 | 2.97                            | 1.04 | 2.286  | 0.001 |
|                | A2                               | 4.03 | 0.75 | 3.31                            | 0.99 | 3.43   | 0.001 |
|                | A3                               | 4.47 | 0.80 | 3.37                            | 1.19 | 3.394  | 0.001 |

$P \leq 0.05$

#### 4.2.2 Rhetoric Needs

According to Table 10, higher proficiency learners tended to have more rhetoric knowledge when learning this course for the purpose of refining their papers. For example: 1) Some lower proficiency learners had no tendency to follow the format of journal articles when writing (B1), often resulting in their inability to articulate their academic perspectives in English with precision (B5). However, higher proficiency learners paid more attention to the logical relationship between sentences (B3). They

adopted the structure of papers published, unintentionally enhancing the logical flow of their own work (B4); 2) They struggled to comprehend how to integrate fragmented sentences into a unified and coherent paragraph (B6). Therefore, they also needed to amass a rich inventory of transitional words (B2) to facilitate smoother transitions between ideas.

Table 10 Results of the English Proficiency Difference in Rhetoric Needs

| Rhetoric<br>Needs | High Proficiency Group (n=35) |      |      | Low Proficiency Group (n=35) |      | t      | p      |
|-------------------|-------------------------------|------|------|------------------------------|------|--------|--------|
|                   | Items                         | Mean | SD   | Mean                         | SD   |        |        |
|                   | B5                            | 2.55 | 0.60 | 3.11                         | 0.83 | -2.261 | 0.027  |
|                   | B1                            | 3.53 | 0.92 | 2.91                         | 1.27 | 2.731  | 0.02   |
|                   | B4                            | 3.61 | 0.86 | 3.14                         | 1.09 | 2.026  | 0.046  |
|                   | B6                            | 3.66 | 0.71 | 3.11                         | 0.83 | 2.993  | 0.004  |
|                   | B2                            | 3.76 | 0.71 | 3.20                         | 1.02 | 2.075  | 0.009  |
|                   | B3                            | 3.76 | 0.71 | 3.03                         | 0.92 | 3.78   | <0.001 |

$P \leq 0.05$   $P < 0.001$

#### 4.2.3 Subject Knowledge and Academic Literacy Needs

In terms of needs for *subject knowledge* and *academic literacy*, we found out that the mean values

of learners with higher English proficiency were higher than those with lower English proficiency, the highest mean value being 3.97. It was suggested that: 1) learners with higher English proficiency have a more positive attitude towards learning academic writing in English. They were required to have a higher English proficiency level (C1) to write their dissertations (C3); 2) learners with relatively lower English proficiency lack the ability of autonomous learning. They had no intention of publishing academic papers in journals (C4), and they hesitated to engage in learning to gain access to a wider array of professional literature resources (C5); and 3) learners agreed that unfamiliar standards with academic norms affected their academic writing in English (C2).

**Table 11** Results of the English Proficiency Difference in Subject Knowledge and Academic Literacy Needs

|                                               | High Proficiency Group (n=35) |      |      | Low Proficiency Group (n=35) |      | t     | p      |
|-----------------------------------------------|-------------------------------|------|------|------------------------------|------|-------|--------|
|                                               | Items                         | Mean | SD   | Mean                         | SD   |       |        |
| Subject knowledge and academic literacy needs | C4                            | 3.11 | 0.92 | 2.60                         | 1.01 | 2.237 | 0.028  |
|                                               | C5                            | 3.63 | 0.82 | 2.74                         | 0.98 | 4.183 | <0.001 |
|                                               | C3                            | 3.79 | 0.74 | 3.00                         | 0.97 | 3.883 | <0.001 |
|                                               | C1                            | 3.95 | 0.80 | 3.31                         | 1.02 | 2.878 | 0.005  |
|                                               | C2                            | 3.97 | 0.59 | 3.46                         | 0.92 | 2.829 | 0.006  |

$P \leq 0.05$   $P < 0.001$

#### 4.2.4 Writing Resources Needs

Table 12 revealed that learners with different English proficiency had different needs in writing resources. Learners with higher English proficiency had self-learning ability and tendency for writing resources. Perhaps, it was because they were eager to use online resources for literature review than learners with lower English proficiency (D2). Interestingly, the mean values of learners with high English proficiency reached the zenith (D6), with an average score of 4.08 (Mean =4.08). This finding suggests a marked variance in the online resources demands among learners, reflecting the diverse needs and preferences of individual learners.

**Table 12** Results of the English Proficiency Difference in Writing Resources

|                        | High Proficiency Group (n=35) |      |      | Low Proficiency Group (n=35) |      | t      | p      |
|------------------------|-------------------------------|------|------|------------------------------|------|--------|--------|
|                        | Items                         | Mean | SD   | Mean                         | SD   |        |        |
| Writing Resource Needs | D2                            | 2.26 | 0.64 | 2.80                         | 1.02 | -2.656 | 0.01   |
|                        | D6                            | 4.08 | 0.85 | 3.23                         | 0.97 | 3.962  | <0.001 |

$P \leq 0.05$   $P < 0.001$

In summary, there were significant differences in the learning needs of academic English writing among learners with different English proficiency. Firstly, learners with higher English proficiency had more positive learning attitudes than learners with lower English proficiency. It was because they proactively learned more professional literature resources. Secondly, learners with higher English proficiency preferred to improve their rhetoric performance, reflecting their high requirements for academic literacy. Primordially, learners with higher English proficiency yearn to extend the duration of this coursework, as well as the availability of online learning resources.

## 5 Conclusion

In this study, we aimed 1) to explore the English majors' overall learning needs for academic writing in English and 2) to investigate whether the level of English proficiency affect the English

majors' learning needs for academic writing in English. The findings of the present research can be summed up as follows:

(1) English majors had 4 different needs in writing. Among them, the needs of *academic writing resources* were the most prominent (Mean=3.54 SD=0.66), followed by the *language needs* (Mean=3.48 SD=0.54). Next, learners also strongly needed for *subject knowledge and academic literacy* (Mean=3.44 SD=0.71). Finally, *the rhetoric needs* was required (Mean=3.40 SD=0.65). Most importantly, we also found additional requirements by semi-structured interviews: 1) they wanted to master *writing skills* and improve their *language skills, listening and speaking skills*; 2) some learners tended to learn *the program of SPSS for data analysis*. (Response to RQ1)

(2) The English proficiency significantly influenced English majors' needs in writing. It was manifested in the following aspects. The first was the needs for *rhetoric*, and *subject knowledge and academic literacy* ( $P < 0.01$ ), followed by the needs for *writing resources* ( $P < 0.05$ ). (Response to RQ2)

A major limitation of this study was small sample sizes. Only 104 learners participated in the questionnaire survey, and 10 learners were interviewed. Therefore, future studies should expand the sample size. Another limitation was a lack of a pilot-study to assure the accuracy of instruments.

The results of this study demonstrate the learning needs of learners for academic writing in English and the impact of learners' English proficiency on their needs. The teachers for writing in academic English are likely suggested to improve learners' interest by various activities, for example, group discussion on certain research topics and analyzing sample research articles. This can activate the interest of learners in learning academic writing. Additionally, some learners lack the awareness for critical thinking. Therefore, teachers for writing in academic English need to develop learners' awareness to think critically. Academic literacy is an indispensable requirement for learners, so the teachers for writing are required to emphasize the academic norms of academic writing in English.

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