

# Chinese College EFL Learners' Cognition and Behavior in Relation to the Use and Acquisition of English Punctuation Marks

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## Abstract

Correct use of punctuation marks could help deliver expressive messages and improve logical clarity and discourse coherence. Hence it is also one of the important indicators to measure writing performance. Theoretical and empirical research on ESL/EFL writing has been fruitful, but fewer have focused on the use and acquisition of punctuation by English learners. The present research investigates Chinese EFL learners' use and acquisition of English punctuation marks. To investigate college students' self-reported perception, attitude, and behavior in relation to English punctuation marks, the researchers mainly used questionnaires and interviews as research tools, combined with classroom observation and students' writing samples. It's found that most Chinese English learners have recognized the importance of English punctuation and have expressed a strong willingness to learn, which is in stark contrast to their lack of learning and the poor self-evaluation of use. Based on the research results, we put forward constructive advice on the learning/acquisition of English punctuation marks.

**Keywords:** English punctuation, Chinese ESL/EFL learner, perception and attitude

## 1. Introduction

Writing norms refer to the basic forms and formatting rules in written language. Imposing a strict requirement on students' writing norms is a necessity to develop their academic rigorous and improve their ability to research and innovate (Zhu, 2003, p. 25). Writing norms cover a wide range of aspects, such as indentation, spacing, citation, layout, punctuation, etc., which vary from style to style and language to language. However, no matter which style or language it is, the use of punctuation marks is an indispensable part of writing norms.

Standard use of punctuation is a part of overall evaluation of ESL/EFL writing (Sakyi, 2000; Lee, 2006). For any written language, the aid of punctuation is a must-have to transmit information accurately and efficiently. Common punctuation marks, such as periods, question marks and commas, play the role of separation and specification (Quirk et al., 1985), separating sentences, clauses and words (Dawkins, 1995; Mann, 2003), almost "similar to superphone features" (Crystal, 1987, p. 205). The correct use of punctuation marks can render the essay's logic and structure clear and facilitate efficient reading. On the contrary, the lack of systematic punctuation may lead to poor information circulation.

Some university official websites in English-speaking countries provide punctuation references for international students. For example, the Online Writing Lab (OWL) (Note 1) in School of Arts, Purdue University offers free punctuation instructions for ESL/EFL students. These convenient punctuation manuals reflect the tradition of attaching much importance to writing and the cultivation of good writing habits in higher education of English-speaking countries. By contrast, few official websites in China offer such kind of punctuation guidance (Chinese or English). International language proficiency tests like TOEFL, IELTS, and ACT in the United States all list a specific requirement for the accurate use of punctuation. However, popular college English exams in China, such as CET4/6, do require correct use of punctuation, but the requirements are not specified in actual scoring. The understatement of English punctuation in teaching and testing in China is a potential cause for the elephant in the room as we mentioned above.

Based on the observation of college English classes, students' sample essays, and teacher-student exchanges in China, there are no special teaching sessions for English punctuation. "Most teachers pay less attention to

punctuation marks... and they rarely teach the use of punctuation systematically” (Lv, 2006, p. 77) Students seem to adopt a “taken-for-granted” attitude by following Chinese punctuation marks in English writing. The understatement in teaching and testing might be the potential cause of the misuse and misunderstanding of English punctuation. Thus, it is necessary to carry out a survey on the use/learning of English punctuation marks among college students to know their thoughts and behaviors so as to take effective pedagogical actions.

## 2. Literature Review

### 2.1 Research on English Punctuation

“Punctuation marks are auxiliary symbols to record written messages and an integral part of the written language” (Huang & Liao, 2002, p. 190). From a linguistic point of view, punctuation plays a special role in written text, such as separating sentence/clause/word separation and specification (Quirk et al., 1985), substitution function (Xu, 2001), textual cohesive function (Zhang & Liu, 2009). From a broader perspective, the use of punctuation is one of the criteria for evaluating learners’ writing (Peck & Coyle, 2005), an indicator of L2 learners’ language acquisition (Yu, 2015), and a node to improve natural language processing efficiency (Dale, 1991).

Nunberg (1990) analyzes the syntactic and textual functions of punctuation from the linguistic perspective. Parkes (2016) systematically introduces the developmental history of western punctuation including English punctuation. Punctuation is a common section in grammar books (Celce-Murcia & Larsen-Freeman, 1999), writing manuals (e.g., American Psychological Association, 2020; Bailey, 2015; Coffin et al., 2005), light reading books (e.g., Truss, 2004). Popular English grammar books often set up separate chapters or columns to run through the use of punctuation, such as the twentieth chapter “Punctuation” in Huddleston and Pullum (2002).

In China, the most influential foreign-language publishing house in China, the Foreign Language Teaching and Research Press published the book *English Writing Norms* in 2011, in which the usage of various punctuation marks in English is included and becomes the main reference standard for the teaching of English writing norms. Some scholars have made introductions on English punctuation marks, listing the usage of punctuation marks in English (e.g., Li, 2004). Some academic discussions, explore the substitution function of English punctuation in addition to the specification function (Xu, 2001), and categorized separation function (Quirk et al., 1985).

The contemporary punctuation system in China is mainly introduced from western English-speaking countries. Therefore, there are many similarities between Chinese and English (Fank, 2003), but differences in the form, function and usage still exist. Wang (2005) made a comprehensive summary of the similarities and differences between Chinese and American punctuation marks. Liu (2010) compared the two sets of punctuation systems and concluded that there is little similarity and big difference between Chinese and English. As Guo (2006) articulated, the contemporary Chinese punctuation marks are based on the western punctuation marks, so they have a closely entangled relationship at the very beginning, which may be the reason why English learners misused some Chinese punctuation marks, i.e., negative transfer from the mother tongue (Yu, 2015).

### 2.2 Research on EFL Learner’s Punctuation Use

Punctuation is part of the holistic evaluation system for ESL writing (Diederich, 1974; Coffin et al., 2005; Lee, 2006). Berman (1975) argues that the use of punctuation norms actually can boost EFL students’ awareness of English grammar and rhetorical structure, thereby improving their reading ability, and providing important directions for readers to construct meaning (Truss, 2004). “Punctuation is not a topic that generates much passion in and outside the classroom. There is also the lack of scholarly attention it receives” (Hirvela, Nussbaum & Pierson, 2012, pp. 11–12). Therefore, the number of empirical studies on EFL punctuation is still limited.

Lv (2006) has retrieved the punctuation misuse among college students in the Chinese Learner English Corpus (CLEC) and found out the most common types of errors: punctuation redundancy, run-on sentence, misuse of punctuation that reflects the relationship of the main clause. The use of punctuation indicates learners’ understanding of textual coherence and cohesiveness, and so these misuses reflect, to some extent, their lack of proficiency in composition. Yang (2015) has distributed questionnaires about English punctuation to students from two universities of central China to study their usage of English punctuation marks. The study shows that there was no difference between male and female students in the usage of English punctuation, but social variables such as major and English proficiency level had an impact on students’ attention and confidence in using English punctuation marks.

The negative transfer of native language is not only at the language level, but also at punctuation. Ghabool (2012) has found that one of the three major obstacles to the development of ESL learners’ writing skills in Malaysia

was the use of punctuation, and the first language interference was an important factor. Yu (2015) has used the CLEC corpus, as Lv (2006) did, to examine ESL/EFL learners' acquisition of English punctuation. He concludes that the misuse of English punctuation results from the first language interference. He further claimed that the higher the learners' language proficiency level, the less punctuation errors they made. Yu suggests that teachers should take into consideration the regularity of ESL/EFL punctuation acquisition in their teaching, and students be given necessary coaching and exercises. Hirvela, Nussbaum and Pierson (2012) have investigated ESL learners' attitudes toward the use of punctuation. Students generally felt good about their own use and had confidence in mastering the rules, but they lacked the confidence to correct others' misuse. They pointed out that the empirical research on learners' punctuation attitudes was scarce, but they served as an invaluable insight into understanding students' true needs and concerns.

The pedagogical system does not attach much importance to English punctuation or just ignore its teaching (Lv, 2006). Although some scholars have made preliminary attempts, such as Wen (2018), which is based on English majors, using questionnaires as well as interviews, yet the questionnaire is lack of convincing reliability and validity, the research scale is too small, the statistical tools are too simple, and there is no discussion on the correlation between social variables and usage. In addition, Yang (2015) has applied a systematic questionnaire to measure the relationship between social variables and the learners' usage, but the research method is limited to the so-called objective questionnaire instrument without taking care of the more emic aspects via resorting to students' writing samples, interviews or in-classroom observation.

Punctuation is still an under-explored area in second/foreign language writing and learning. English punctuation is crucial for English writing, but seemingly there is a factual lack of a basic understanding of the learners—their attitudes, their behavior, their needs, etc. With the impact of increasing informal writing such as mobile texting and messaging, standard use of punctuation seems to fade out soon. Therefore, it is necessary to conduct systematic and comprehensive empirical research to understand Chinese EFL learners' cognition and behaviors in terms of punctuation use in order to provide reasonable, evidence-based and insightful advice for teaching and to cultivate students' awareness and habits of writing norms.

### **3. Research Design**

#### *3.1 Research Questions*

The present research seeks to address the three questions below:

- 1) What are the main characteristics of Chinese EFL learners' behavior, cognition and attitude towards English punctuation marks?
- 2) Do such social variables as major and English proficiency have an impact on their cognition and use of English punctuation?
- 3) What are the possible reasons for the findings in the preceding two questions?

#### *3.2 Research Methods*

In order to answer the research questions, we used two main methods: questionnaires and interviews, with teaching observation and students' sample essay as auxiliary tools.

##### *3.2.1 Pilot Study*

In the spring of 2017, we conducted a pilot study. The pilot study was a questionnaire survey divided into three parts: basic information, subjective statements, and objective questions. The first part collects basic demographic information such as gender, grade, contact information, and major. The second part of the subjective questions include five topics: the learner's self-evaluation of their use of English punctuation, the way to acquire the rules for English punctuation use, their confusion in using English punctuation, their understanding of the importance of English punctuation, and advice for English punctuation teaching. The third part consists of 23 objective questions, using the 5-point Likert scale and featuring the following choices: (1) strongly disagree, (2) disagree, (3) uncertain, (4) agree, and (5) strongly agree, covering learners' cognition and attitude toward English punctuation and self-evaluated behavior in use. In order to enable our participants to answer questions more accurately in their native language thinking mode and improve the reliability of the data, the questionnaire is designed in Chinese. The pilot questionnaire was conducted among English major freshmen in some university in Jiangxi Province. 100 questionnaires were distributed, 98 questionnaires were returned and all were valid.

##### *3.2.2 The Final Questionnaire*

The analysis for the 98 pieces of questionnaire gave us preliminary answers to the research questions, and we modelled the questionnaire tool into four dimensions based on the pilot study and preliminary interviews.

Therefore, the final questionnaire greatly differs from Yang (2015), in which he directly translated and modified an English questionnaire on learners' attitude towards English punctuation marks from Hirvela, Nussbaum and Pierson (2012). In the first part, we added two parts of basic information: "arts or science in high school" and "English proficiency level", in an attempt to explore whether they would affect their cognition and behavior. Considering that freshmen did not yet take CET-4/6, we took their English score in College Entrance Examination as their English proficiency. For non-freshman students, we examined whether they passed CET 4 or CET 6. The second part of subjective statements was shortened, and finally four topics retained. Finally, we revised the third part of objective questions, and decided on four dimensions: self-assessment of usage, cognition and attitude, learning/acquisition experience, and future learning vision, a total of 23 questions, aiming at a comprehensive understanding of learners' use of English punctuation marks from these four perspectives. The number of questions corresponding to each dimension is listed in Table 1.

Table 1. The four dimensions of the questionnaire and their distribution

Dimension	Total	Question number
learning/acquisition experience	5	(1)(3)(7)(11)(16)
self-assessment of usage	6	(2)(9)(14)(15)(19)(23)
cognition and attitude	8	(4)(6)(10)(12)(13)(20)(21)(22)
future learning vision	4	(5)(8)(17)(18)

### 3.2.3 Interview

The interview was designed as semi-structured, including two themes: the respondents' reflection and evaluation of their learning/use experience of English punctuation, and their further explanation about their answers to the objective questions on the questionnaire. We provided open-ended questions to interview participants, gave them the freedom to talk, and followed their leads to raise further questions about their statements. When their narration derailed too far away from the themes, we gave them an in-time prompt to go back to the themes.

### 3.2.4 Observation and Essay Samples

Teaching observations and writing assignments were used as supplementary materials. The first author has worked as an English teacher at college for many years, and so she has an easy access to the first-hand data about students' punctuation use in writing. Memo about her classroom observation and field notes of after-class communication with students were kept, and students' writing and translation assignments were collected.

## 3.3 Data Collection

The present study took place from January 2019 to July 2020. A total of 478 questionnaires were distributed to undergraduates from a key university in Jiangxi Province, China. 469 questionnaires were returned, among which 435 were valid. We chose to issue questionnaires during class breaks in teaching buildings so that we could collect them on the spot. In May 2019, we finally reached 12 students from those questionnaire participants who left contact information and were willing to take part in our interview, with 5 English majors and 7 non-English majors, 4 males and 8 females. Face-to-face interviews were conducted individually in June and July 2019 at a coffee shop or teacher's office. After obtaining verbal consent from the interview participant, we recorded the interview and transcribed it afterwards. Each interview lasted for 30–40 minutes. We named our interviewees according to their participation order as IP1~IP12 (IP: Interview Participant).

## 3.4 Data Analysis

The questionnaire is mainly used to answer the first and second research question, and the interview data for the third one.

For the first question, we used SPSS 16.0 for questionnaire input to generate statistical results and to describe the features with regard to self-assessment of usage, cognition and attitude, learning/acquisition experience, and future learning vision. For the second research question, we first calculated the mean and standard deviation of the four dimensions, and then calculated the correlation between each social variable and each of the four dimensions by independent sample T test to decide whether there are significant differences. The distribution characteristics of the questionnaire was explained by combining teaching observation and students' writing sample as well as the existing research literature. For the third question, by analyzing the interview data, we further explored how respondents explained their answers on questionnaire and checked whether their cognition towards English punctuation and their actual use is consistent.

#### 4. Results and Discussions

We present our findings by organizing them along the four dimensions of the questionnaire design. To protect our participants' privacy, we use the IP1~IP12 code to refer to each interview participant's name. The overall demographic characteristics of questionnaire respondents are shown in Table 2.

Table 2. Demographic characteristics of participants in the questionnaire

Demographic variable	Distribution	Notes
Gender	Male	106 (24.4%)
	Female	329 (75.6%)
Major	English	168 (38.6%)
	Non-English	267 (61.4%)
Grade	Freshman	328 (75.4%)
	Sophomore	90 (20.7%)
	Junior	8 (1.8%)
	Senior	9 (2.1%)
Liberal Arts and Science	Liberal Arts	172 (39.5%)
	Science	259 (59.5%)

There are in all 7 majors, which are categorized into English or non-English for the convenience of statistics.

The three provinces who have studied in the province have canceled the division of art and science, so these four people did not enter the statistics in this item.

The reliability test of the questionnaire shows that the Cronbach's Alpha coefficient value of the 23 items on the questionnaire is 0.737 (Table 3), indicating acceptable reliability and internal consistency. The structural validity analysis of the questionnaire shows that KMO value is 0.822, indicating that the data are very suitable for factor analysis, and the objective validity of the questionnaire structure is good as Table 4 shows.

Table 3. Questionnaire reliability testing

Cronbach's Alpha	N of Items
0.737	23

Table 4. Questionnaire validity testing (KMO and Bartlett's test)

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	Bartlett's Test of Sphericity		
	Approx. Chi-Square	df	Sig.
0.822	2884.362	253	0.000

##### 4.1 Punctuation Learning Experience

To begin with, we want to know Chinese EFL learners' learning/acquisition experience of English punctuation in and out of the classroom. For Q1 "I have learned the use of English punctuation in the previous English class", the statistics show that nearly half of the students (48%) chose "strongly disagree" or "disagree". The mean value is only about 2.70, as shown in Table 5. Similarly, for Q11 "In English class, the teacher has specifically taught us the use of punctuation", the mean value is only about 2.71. This shows that most respondents did not receive systematic or special English punctuation teaching in the classroom.

Then, in the case of "absence" of formal instruction, do EFL learners find their own way to obtain the rules of using English punctuation? To Q7 "After class, I learned the use of punctuation on purpose and consciously", more than half of the respondents (55%) chose "strongly disagree" or "disagree", and the mean value is only about 2.48, as shown in Table 6. To Q16 "I groped for myself to acquire and master the use of English punctuation", and Q3 "I got the rules for using English punctuation in the process of reading English articles", the mean value of the two questions is about 3.49 and 3.16 separately. Most learners did not specifically and consciously acquire the use of English punctuation. "[Punctuation] roughly corresponds to the use of suprasegmental features, but it differs from speech in that its contrasts are to some extent taught in schools, and norms of punctuation are conventionally laid down by publishing houses in their style manuals." (Crystal, 1987, p. 205). Hence, there is a growing lack of specialized punctuation teaching at schools (Truss, 2004), so learners may only be able to acquire the rules unconsciously through reading.

Table 5. Frequency of Q1 (I have learned the use of English punctuation in the previous English class)

	Frequency	Percent (%)	Mean Value (Note 2)
Strongly Disagree	88	20.2	2.7011
Disagree	121	27.8	
Uncertain	101	23.2	
Agree	83	19.1	
Strongly agree	42	9.7	

Table 6. Frequency table of Q7 (After class, I learned the use of punctuation on purpose and consciously)

	Frequency	Percent (%)	Mean Value
Strongly Disagree	80	18.4	2.4782
Disagree	159	36.6	
Uncertain	114	26.2	
Agree	72	16.6	
Strongly agree	10	2.3	

The interview data further testify to the statistical results above, as all the 12 interviewees reported that they had not received systematic or specialized instruction on English punctuation in classroom. But they added more extra curriculum access to English punctuation such as reading subtitles when watching English movies (IP6), using search engines like Baidu to look for the use (IP3, IP10). One interviewee mentioned:

“In fact, before, I would rarely say that I would specifically pick out the punctuation to learn. I sometimes read the news and noticed the punctuation. When I found out that I was wrong with it, and then I would try to correct it. The teacher would not spend a class session, to sort out all the punctuation marks...Later because I had to take the TOEFL test at the time, the computer test involved typing, and then I consulted Baidu. Then, then, I also read the news to find out the use of punctuation, almost like this.” (IP3)

#### 4.2 Practical Usage of Punctuation

The dimension of practical usage refers to the self-reported evaluation of one’s own grasp of English punctuation in the questionnaire and their daily practice. For the self-reported evaluation of one’s own grasp of English punctuation in the questionnaire, in response to Q2 “I have mastered most of the rules of punctuation use in English”, the mean value is about 3.06. When we examined the ratio of each option, we found that the proportion of “3-uncertain” was as high as 43.4%, details shown in Table 7. That means, nearly half of the respondents are not sure whether they have mastered the use of punctuation. In the interview, we dug a little further among the students who chose “uncertain” for this question. For example, an interviewee explained it as follows:

“In fact, this is mainly because I don’t have a comprehensive understanding of punctuation, English punctuation. My mastery is only limited to the ordinary rules taught in computer class. Not like Chinese punctuation, which I know so well. A lot (pause), in fact, to tell the truth, some punctuation ... some are Chinese, some are English, I am not very clear, that is, I may only have a partial grasp of it, the part that are more commonly used. But for the English punctuation system, I am not very clear.” (IP4)

Table 7. Frequency table of Q2 (I have mastered most of the rules of punctuation used in English)

	Frequency	Percent (%)	Mean Value
Strongly Disagree	18	4.1	3.0552
Disagree	92	21.1	
Uncertain	189	43.4	
Agree	120	27.6	
Strongly agree	16	3.7	

In response to Q9 “I have not encountered any difficulty about the use of English punctuation marks”, the data shows that the mean value is only around 2.17. The vast majority (70.4%) does report their difficulty in the actual use. See Table 8 for more details. It further confirms why so many students choose “3-Uncertain” on Q2, because many of them do have confusion about the use of English punctuation. As stated by IP4, they are still in the dark side about the overall use of English punctuation.

Table 8. Frequency table of Q9 (I have not encountered with difficulty about the use of English punctuation marks)

	Frequency	Percent (%)	Mean Value
Strongly Disagree	120	27.6	2.1655
Disagree	186	42.8	
Uncertain	74	17	
Agree	47	10.8	
Strongly agree	8	1.8	

Coffin et al. (2005), Hirvela, Nussbaum and Pierson (2012) reminded that electronic input may reduce awareness about punctuation use. In response to this concern, we designed Q19 “I am careful about the use of punctuation marks when writing an English essay on paper” and Q23 “I am careful about the use of punctuation marks when writing an English essay on computers or mobile phones”. Nearly 70% of learners chose “agree” or “strongly agree”, and the mean values are about 3.84 and 3.81 respectively, which means that students do pay attention to punctuation use in writing regardless of media. For Q15 “I can distinguish Chinese punctuation from English punctuation and use them correctly in the process of electronic input”, the mean value of respondents’ choice reaches 3.47, further confirming the result in Q23. It shows that although the popularity of electronics brings us much convenience and informality, most students think that they are acutely aware of the use of punctuation, which counters the concern raised by Truss (2004) that informal writing, generated by smartphones and networks, will cut down the role punctuation plays. The interviews further prove that the use of electronic devices on the contrary often improves students’ consciousness of punctuation, especially the difference between Chinese and English punctuation input, as what IP5 told us:

“That is, when I was having the programming class, I used the Chinese input method to input punctuation marks, which could not be recognized. I feel that the punctuation marks, there, are quite different. When you input punctuation marks in Chinese input method, it can’t be identified by the computer in some places. The program can’t be recognized. Thus, we will definitely notice this error...so it feels like, it (electronic input) may help us use punctuation more standardly.” (IP5)

Overall, in the dimension of practical usage, the questionnaire results indicate that respondents believe that they notice the use of English punctuation and can distinguish between Chinese and English punctuation, but because they are not sure whether they have mastered the punctuation system completely, there is still a large quantity of doubts about the specific use. When reviewing students’ electronic writings and handwriting, we also found that students often only used a few common punctuation marks (such as commas, periods, etc.), while the misuse of using the Chinese book title (《》), Chinese style of comma (、), and dash (——) is quite common. Here is a piece of the researcher’s memo after reviewing students’ writing task:

“At the end of 2018, the last writing task of [the course of College English: Reading and Writing] was to read any chapter of Interpersonal Communication and then write a reading report of at least 4 pages. In more than 100 reading reports, more than 80% of students were using 《Interpersonal Communication》 in their reading report, quite shocking. Students directly “embezzle” the Chinese book title mark, which, apparently, is one of the manifestations of first-language transfer! Don’t they know the English book title?” (January 8th 2019)

At the same time, in order to examine students’ practical use of English punctuation marks, we conducted a comparative study to know whether classroom teaching can effectively improve students’ sensitivity to the use of English punctuation marks by comparing students’ writing before and after the teaching of English punctuation marks. Before and after teaching, 72 students’ exercises were collected respectively. Through comparative study, we find that the variety of punctuation marks used in students’ exercises and their correctness won’t improve significantly before and after teaching. Students generally only use simple punctuation marks such as full stops and commas, and there is no mistake in using them. However, we also find that, perhaps due to the big difference between the two writing contents, more students use quotation marks and semicolons in the students’ exercises after teaching. Unfortunately, when students use quotation marks, they often fail to correctly distinguish between Chinese and English quotation marks and misuse them. Although this study has its limitations, such as short teaching time and small number of students participating in the study, it can also reflect the current situation of students’ use of English punctuation marks and the influence of classroom teaching on their correct use of punctuation marks to a certain extent.

### 4.3 Cognition and Attitude

The aforementioned results show that most learners have not specifically studied the use of English punctuation in the classroom, and there is not much extra and special effort to expand their punctuation knowledge outside the classroom. Is it because learners fail to recognize the importance of the use of punctuation?

Regarding the learner's attitude towards English punctuation use, for Q4 "I think the correct use of punctuation is important for writing", more than half of the learners "agree" or "strongly agree" on it, with a proportion close to 90%, and the mean value is the highest among all question items, up to 4.48, details provided in Table 9. Likewise, for Q10 "The standardized use of punctuation is conducive to the idea organization and expression", the mean value follows that of Q4 (4.31). It is certain that most students are well-aware of the importance of the use of English punctuation, generally consent that punctuation affects reading speed and effectiveness (Berman, 1975), useful for idea organization and logical thinking (Truss, 2004) and helps improve the efficiency and quality of writing (Peck & Coyle, 2005; Yuan, 2003).

Table 9. Frequency table of Q4 (I think the correct use of punctuation is important for writing)

	Frequency	Percent (%)	Mean Value
Strongly Disagree	2	0.5	4.4828
Disagree	5	1.1	
Uncertain	26	6	
Agree	150	34.5	
Strongly agree	252	57.9	

Yu (2015), Hirvela, Nussbaum and Pierson (2012) believed that ESL/EFL learners' misuse of punctuation could be attributed to the negative transfer from their mother tongue. We also added related items to the questionnaire. For example, for Q6 "I feel that there is no difference between Chinese and English in the use of punctuation marks", the mean value is about 2.09, and nearly 70% of the respondents chose "disagree" or "Disagree"; for Q21 "Chinese punctuation knowledge helps me to use English punctuation", the mean value reaches 3.73, which means that most learners are aware of the punctuation difference between the Chinese version and the Chinese one helps them learn the use of English one, which confirms the transfer from their mother tongue. It might be closely related to the fact that the contemporary Chinese punctuation borrows a lot from the western tradition (Fan, 2003; Xiao, 2004).

Our interview participants also offered us novel and unique insights into the importance of English punctuation, which goes beyond facilitating reading comprehension, expressing emotions, demonstrating academic and formal rigor, and enhancing the logic of the article. Some of them bonded punctuation with culture and aesthetics, as an interviewee mentioned:

"For me, punctuation, it is a wisdom crystal of human beings. It is. It is an aspect of culture. In particular, how do you say it? Some people who know it well, maybe, in their daily life, for example, if he spots an advertisement slogan on the street, or sees something, he can understand this sentence more than others due to a punctuation, such as humor. Or, just like when we were learning Chinese, the teacher also talked a lot with us. It is a sentence, because of the difference in punctuation, and then it expresses different meanings and deliver different sense of humor. I think this is also true, although the actual effect, is not very big, but for the spiritual enjoyment, or the fun of life, it will still be a little, the value of aesthetics." (IP1)

### 4.4 Learning Vision

Along the dimension of learners' learning vision for English punctuation in near future, to all of the question items, e.g., Q5 "I think it is necessary to learn the rules of using English punctuation in the future", Q8 "If I have the opportunity, I want to learn the use of English punctuation marks", and Q17 "I am willing to devote special time to learning the use of English punctuation rules", the mean values are about 4.0. Most of the respondents acknowledge that it is necessary to make particular efforts for the study of English punctuation use. From respondents' answers to subjective questions on the questionnaire and the interviews data, we generalized that a vast majority of learners believed that to add English punctuation to English classes is needed. In terms of advice for curriculum design, respondents believed that English punctuation should be included in English reading and writing class. An English major (IP2) mentioned in her interview that the listening part of TEM-4 test laid down strict rules on the use of punctuation, so she suggested adding punctuation instruction to English listening class as well. It is obvious that the research participants have strong motivation and a serious need for English



punctuation learning, which is perfectly consistent with the high scores generated in each question item of the “cognition and attitude” dimension. A positive attitude and a strong motivation usually can lead to initiative actions. The findings here serve as needs analysis for a possible reform in punctuation teaching.

#### 4.5 Group Differences

To answer our second research question, we conducted independent sample T tests on different variables related to learners’ perceptions and behaviors of four dimensions.

##### 4.5.1 Majoring in Arts vs Science in High School

The Levine variance equivalence test shows that when examining the four dimensions, each of the significance level is greater than 0.05, indicating that the variances of the two samples are equal and conform to the homogeneity of the variance, so the t-values and the significant two-tailed values corresponding to the assumed equal variance are taken. The results show that at the significance level of 0.05, the significance (two-tailed) values are all greater than 0.05, indicating that there is no significant difference between liberal arts and science along the four dimensions of learning/acquisition experience, self-assessment of usage, cognition and attitude, and future learning vision. Details are provided in Table 10. The present research finds that liberal art or science has little influence on learners’ attitudes towards their perceptions and behaviors.

Table 10. Independent samples test (Arts vs science in high school)

Dimension		Levene’s Test for Equality of Variances		t-test for Equality of Means	
		F	Sig.	t	Sig. (2-tailed)
learning/acquisition experience	Equal variances assumed	1.215	0.271	-0.036	0.971
self-assessment of usage	Equal variances not assumed	1.917	0.167	-0.820	0.412
cognition and attitude	Equal variances assumed	0.068	0.795	0.809	0.419
future learning vision	Equal variances assumed	0.846	0.358	0.663	0.508

##### 4.5.2 English Proficiency Level

We divide the learners into two subgroups. For freshmen, we use their English score in National College Entrance Examinations to represent their current English proficiency and the grouping variables are two, below 130 and above 130. For non-freshmen, we refer to their passing CET-4 or CET-6 and so the grouping variables are two: passing CET-4 VS passing CET-6. As shown in Tables 11 and 12, the Levine variance equivalence test shows that the significance values are greater than 0.05, indicating that the variances of the two samples are equal and conform to the homogeneity of the variance, so the t-values and the significant two-tails values corresponding to the assumed equal variance are taken. The results show that at the significance level of 0.05, the significance (two-tailed) values are all greater than 0.05. That is, there is no significant difference for different levels of English learners along the four dimensions of learning/acquisition experience, self-assessment of usage, cognition and attitude, and future learning vision. The present research finds that English proficiency level has little influence on learners’ perceptions and behaviors, which differs from the finding of Yang (2015) that English proficiency level impacts learners’ attention to and confidence in using English punctuation.

Table 11. Independent samples test (English proficiency reflected through English score)

Dimension		Levene’s Test for Equality of Variances		t-test for Equality of Means	
		F	Sig.	t	Sig. (2-tailed)
learning/acquisition experience	Equal variances assumed	0.389	0.533	-0.937	0.349
self-assessment of usage	Equal variances not assumed	0.015	0.904	-0.364	0.716
cognition and attitude	Equal variances assumed	0.609	0.436	1.350	0.178
future learning vision	Equal variances assumed	0.108	0.742	-1.322	0.187

Table 12. Independent samples test (English proficiency reflected through passing CET 4/6)

Dimension		Levene's Test for Equality of Variances		t-test for Equality of Means	
		F	Sig.	t	Sig. (2-tailed)
learning/acquisition experience	Equal variances assumed	1.035	0.312	0.422	0.674
self-assessment of usage	Equal variances not assumed	0.660	0.419	-0.070	0.944
cognition and attitude	Equal variances assumed	2.387	0.126	0.116	0.908
future learning vision	Equal variances assumed	0.641	0.426	-0.295	0.769

#### 4.5.3 English Major vs Non-English Major

As shown in Table 13, the Levine variance equivalence test shows that the significance values are all greater than 0.05, indicating that the variances of the two samples are equal, consistent with the variance homogeneity hypothesis. Therefore, the t-values and the significant two-tailed values corresponding to the assumed equal variance are taken. The results show that at the level of significance of 0.05, in the dimensions of self-assessment of usage and cognition and attitude, the significance (two-tailed) values were all greater than 0.05, indicating that the major difference doesn't have an impact. However, there is a significant difference in the dimension of learning/acquisition experience and learning vision, with two-tailed value less than 0.05. It is similar to the finding of Yang (2015) that English and non-English majors hold different attitudes toward classroom teaching of English punctuation marks from teachers. Taking a further look at the statistics, shown in Table 14, we find that in the dimension of learning/acquisition experience and learning vision, the mean value of English major is significantly higher than that of non-English major. We believe that English major students have more experience in learning English punctuation marks, possibly because they have more opportunities to learn English punctuation marks in specialized courses such as writing courses. The fact that English majors are more willing to learn English punctuation in the future may be related to their urgent need to take TEM-4/8, where stricter use of punctuation is articulated in the TEM-4/8 assessment criteria.

Table 13. Independent samples test (English major vs non-English major)

Dimension		Levene's Test for Equality of Variances		t-test for Equality of Means	
		F	Sig.	t	Sig. (2-tailed)
learning/acquisition experience	Equal variances assumed	3.175	0.075	-2.723	0.007
self-assessment of usage	Equal variances not assumed	1.742	0.188	-1.200	0.231
cognition and attitude	Equal variances assumed	0.425	0.515	1.019	0.309
future learning vision	Equal variances assumed	0.737	0.391	-4.174	0.000

Table 14. Mean value (Comparative statistics of English major vs non-English major)

Dimension	Major	Mean
learning/acquisition experience	Non-English major	2.8397
	English major	3.0143
self-assessment of usage	Non-English major	3.2372
	English major	3.3036
cognition and attitude	Non-English major	3.5852
	English major	3.5417
future learning vision	Non-English major	3.8015
	English major	4.1131

## 5. Conclusion

Up to this point, we have answered the three research questions raised in the research design section. The questionnaire results show that: (1) The dimension of previous learning/acquisition experience indicates that most learners did not receive specific instruction about the rules of using English punctuation and many of them learn the usage norms by reading or just referring to Chinese punctuation marks; (2) In the dimension of self-assessment of usage, learners think they can notice the rules of English punctuation, but they are not sure whether they have a complete grasp of the punctuation system, that is, there is still a lot of doubt in the specific use; (3) The dimension of cognition and attitude enjoys the highest overall mean value. Most students

consciously acknowledge the importance and benefit of punctuation usage in writing and reading; (4) Regarding the future learning vision, most learners demonstrate a strong motivation to learn the use of punctuation in class.

Combining interviews, teaching observations and students' writing samples, we have comprehensively discussed Chinese learners' use of English punctuation marks from the four dimensions: learning experience, practical usage, cognition and attitude, and future learning vision. Questionnaire results show that most English learners have realized the importance of English punctuation marks and expressed a strong willingness to learn, which is in sharp contrast to the previous lack of learning experience and unsatisfactory evaluation of usage. The independent sample T-test shows that the variable of arts vs science in high school and English proficiency level do not affect the distribution characteristics of these four dimensions, and only the variable of English vs non-English major has significant influence on learning experience and future learning vision.

We propose the following measures for the instruction of punctuation in terms of curriculum setting, pedagogical concept and teaching method. First, adding formal punctuation instruction to the college English curriculum. English teachers are suggested to give separate teaching sessions to teach the use of English punctuation marks in intensive reading or writing class. Second, the pedagogical attitude towards punctuation should be changed, as "punctuation is of basic importance in writing; it is truly organic, a genuine part of writing." (Shaw 1993: xii) Teachers and policy makers should help develop students' awareness of English writing conventions, especially the norms of punctuation use. Third, different teaching strategies of punctuation can be used, such as comparing and contrasting. Moreover, we believe that not only in English writing but also in Chinese writing attention should be paid to the standard use of punctuation marks in order to cultivate the sense of writing norms.

The results of the present research allude to the fact that English punctuation is an under-explored area and further study with more empirical research is still in need. This study inevitably has some limitations. For example, both Yu (2015) and Hirvela, Nussbaum and Pierson (2012) believed that the higher the learner's English proficiency level, the less they misuse punctuation marks, but our results failed to confirm this. It may be due to the fact that the number of senior respondents is rather small. Future research can expand the sample size and add more variables or explore individual cases in depth from a qualitative perspective.

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### Notes

Note 1. [https://owl.purdue.edu/owl/general\\_writing/punctuation/punctuation/index.html](https://owl.purdue.edu/owl/general_writing/punctuation/punctuation/index.html)

Note 2. The authors calculated the mean value of the question by dividing the sum of the scores of 362 cases by the total number of cases. By calculating the mean value of each item(question), we can understand the overall acceptance of a statement of all respondents.

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