

Original Paper

Exploring the Effects of Corpus-Based Cross-Border E-Commerce Writing Instruction for Vocational College EFL Learners

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Abstract

This study proposed and implemented corpus-based writing instruction via the use of a custom-made corpus learning platform for learners of cross-border e-commerce English in the context of vocational colleges. It attested the effects of the proposed DDL pedagogy versus conventional PPP teaching practice on 83 e-commerce majors at a vocational college randomly forming a control group and an experimental group respectively. The experimental group received a three-step inductive pedagogical approach enabled by a tailor-made corpus learning platform while the control group was taught by conventional PPP teaching practice. Results indicated that the experimental group outperformed the control group in writing product description which is a language skill essential to cross-border e-commerce operation. Findings of this research can be interpreted as suggestive that it's worthwhile to apply custom-made specialized corpora and corpus-based teaching pedagogy to facilitate ESP learning for EFL learners at vocational colleges.

Keywords

DDL, cross-border e-commerce English, writing proficiency, corpus learning platform, vocational college EFL learners

1. Introduction

Data-based learning (henceforth DDL) is the predominant model of utilizing corpora for second and foreign language teaching and learning. Ever since its inception in 1991 (Johns, 1991), there have been a substantial body of researches using DDL for different teaching targets, the overwhelming majority of

whom were university learners, examples include Sun and Hu (2020), Jablonkai and Čebren (2021), Bruce et al. (2016), Lin (2021), to name just a few. Albeit prolific publications on DDL targeting tertiary contexts, the use of such methodology with EFL or ESL learners at vocational colleges remains rare. An ongoing but certainly not exhaustive collection of research in the area currently brings up only 13 separate publications explicitly stating that the participants are in vocational college context. Of these, only 5 (Hu & He, 2016; Liu, 2016; Lü, 2015; Ma, 2014; Song, 2014) feature empirical study of DDL. Despite very few studies (e.g., Dong et al., 2017; Ma, 2014; Song, 2014) pointing to the benefits of using DDL for vocational college EFL learners, they adopted DDL as originally proposed by Johns (1991) without any methodological modifications to suit learners' proficiency levels. DDL is still not widely used in vocational college context for a number of reasons. One of them is that DDL is, according to Boulton (2011, p. 572), "the hands-on use of authentic corpus data (concordances) by advanced, sophisticated foreign or second language learners in higher education for inductive, self-directed language learning of advanced usage", indicating that DDL might not be appropriate for vocational college learners whose English proficiency and learning autonomy are relatively low. Another reason is that no pedagogical frameworks are readily available for integrating DDL into vocational college EFL courses and curricula. Whilst Carter and McCarthy (1995) outlined DDL approach as "Three Is" (Illustration-Interaction-Induction), such modelling demands high level of learner autonomy and corpus literacy, and the effectiveness of it should take into account different factors such as learning contexts and learners' EFL proficiency level. For learners at vocational colleges, who tend to be lower-proficiency learners, "Three Is" are not best suited and request adaptation to cater to specific needs and aims of vocational college learners. Thirdly, many available corpora were made by corpus linguists for specialists like themselves and not with teachers and learners in mind, requiring considerable levels of linguistic and technological sophistication (Vyatkina & Boulton, 2017). Nevertheless, since vocational school learners are prone to have a visual or kinaesthetic learning style and prefer graphical presentation of learning material with higher level of interactivity, traditional concordancers are likely to be unappealing. Finally, the corpus examples are often of little or no relevance to vocational college learners because they are often genre-based or discipline-specific rather than representative of workplace scenarios. Learners may get discouraged if too many items in the KWIC context are irrelevant.

Consequently, to address the limitations of DDL with lower-proficiency learners at vocational colleges, this study aims to:

- (1) Explore a DDL pedagogical model targeted at the level and needs of vocational college learners by utilizing a custom corpus learning platform.
- (2) Conduct empirical studies to explore the effects of the proposed DDL pedagogical framework by measuring the changes in learners' English writing proficiency.

2. Custom DDL Tools

The course Cross Border E-commerce English was offered to E-commerce majors in their fourth semester at Chengdu Polytechnic, a vocational college located at the south-western Chinese city of Chengdu. The time allocation for this course is 4 periods per week which lasts for 20 weeks. Learners are expected to learn the fundamentals of and master the language skills needed for cross-border e-commerce operations. Writing is the primary mode of transmission for cross-border e-commerce communication as e-commerce products can only be displayed in the form of pictures and customer query is mainly addressed via exchange of text messages.

According to the cross-border e-commerce workflow, the course was structured into seven modules with each one engaging learners in some kind of writing tasks related to cross-border e-commerce operations as shown in Table 1. Week 1 of the course is a general course introduction not involved in the modules.

Table 1. Modular Course Content of *Cross Border E-Commerce English*

Modules	Module Description	Writing Tasks	Weeks
1. cross-border e-commerce platform selection	Learners know the development status and characteristics of major cross-border e-commerce platforms	Write a report on the main features of major cross-border e-commerce platforms.	2-3
2. cross-border e-commerce platform operation	Learners know the processes of cross-border e-commerce business	Write a report about the complete business processes of a cross-border e-commerce company.	4-5
3. cross-border e-commerce product selection	Learners know how to find suppliers and set the price for the product	Contact suppliers for a quote via email.	6-8
4. cross-border e-commerce product descriptions	Learners know how to write product descriptions that sell	Write a product description.	9-11
5. cross-border e-commerce product marketing	Learners know the cross-border e-commerce marketing strategies	Write a blog post about a cross-border e-commerce store.	12-14
6. cross-border e-commerce pre-sale service	Learners know how to provide customer service in the pre-sale phase	Respond to customer enquiries about the product via email.	15-17

7.	cross-border	Learners know how to settle disputes	Respond to a negative	18-20
	e-commerce	after-sale and complaints	customer review via	
	service		email.	

The lexical items, sentence structures and discourse patterns of cross-border e-commerce English have their own specialties under the banner of ESP, and hence pose writing difficulties to learners as their written proficiency is confined to general English and they barely have any encounter with English in a specialized domain. Therefore, “learners should be exposed to authentic text so that they may have direct contact with input data which reflects genuine communication in the target language” (Breen, 1985, p. 63). The benefits of using authentic materials in ESP course have been acknowledged by many researchers (Rogers & Medley, 1988, p. 475; Widdowson, 1990, p. 162; Peacock, 1997, p. 144; Guariento & Morley, 2001, p. 347). Therefore, the Research Center for Application of Big Data on Higher Vocational English Education affiliated with Chengdu Polytechnic, where the author works, developed a parallel textbook corpus called Cross-border E-commerce Corpus for Loose-leaf Textbook Development (CECLOTE) consisting of a collection of authentic texts such as specialized literature, corporate case studies, technical manuals, and data extracted from major cross-border e-commerce websites. This is novel considering that no specialized corpus exclusively applicable to the domain of cross-border e-commerce has hitherto been made readily available, not to mention in bilingual version. We have also built a corpus-based platform (<https://search.ctcfile.com>) for storing, managing and querying data of CECLOTE (Liu, 2023, p. 137), the size of which is 271,252 sentence pairs. In contrast to traditional static corpus system, the platform allows for adding data to existing corpora and it features the following four major functionalities:

(1) Queries can be performed in both Chinese and English, and the results are shown in terms of concordances, texts and terminologies to suit learners’ needs (see Figure 1).



Figure 1. Query Function of the Corpus Learning Platform

(2) Bilingual alignment can be achieved for learners to add new text data to the platform (see Figure

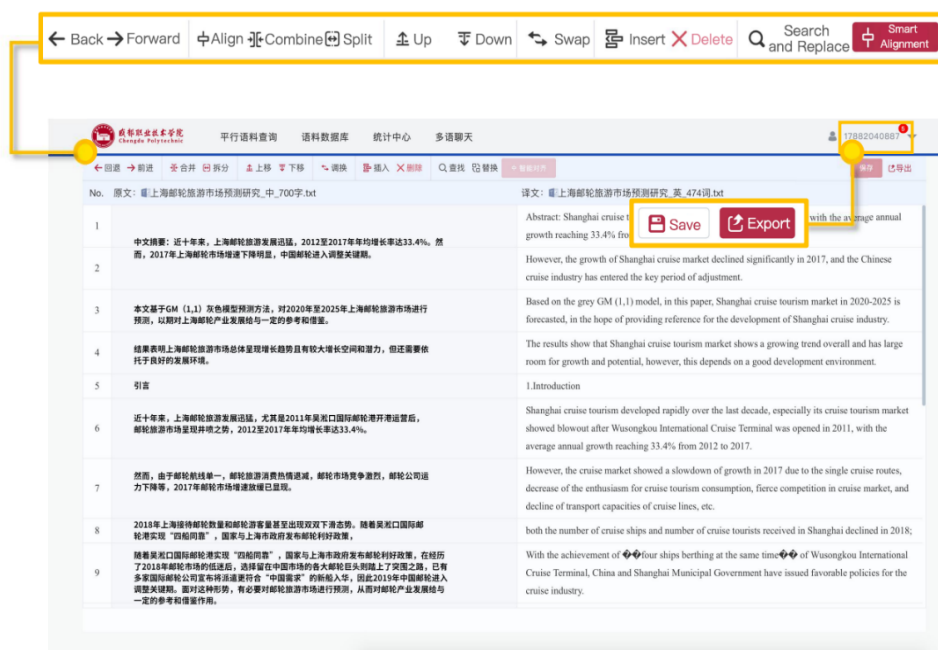


Figure 2. Alignment Function of the Corpus Learning Platform

(3) Students' assignments or teachers' written feedback in both bilingual or monolingual version can be uploaded to the platform (see Figure 3).

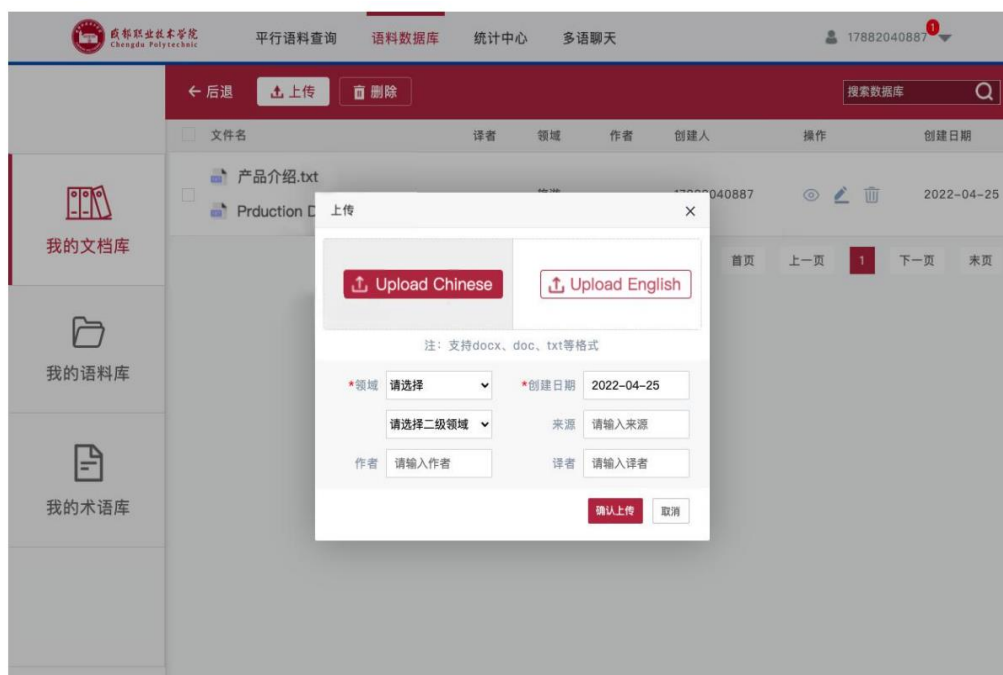


Figure 3. Upload Function of the Corpus Learning Platform

(4) Simulated buyer-seller interaction is made possible via the individual chat or group chat in the chat box (see Figure 4).

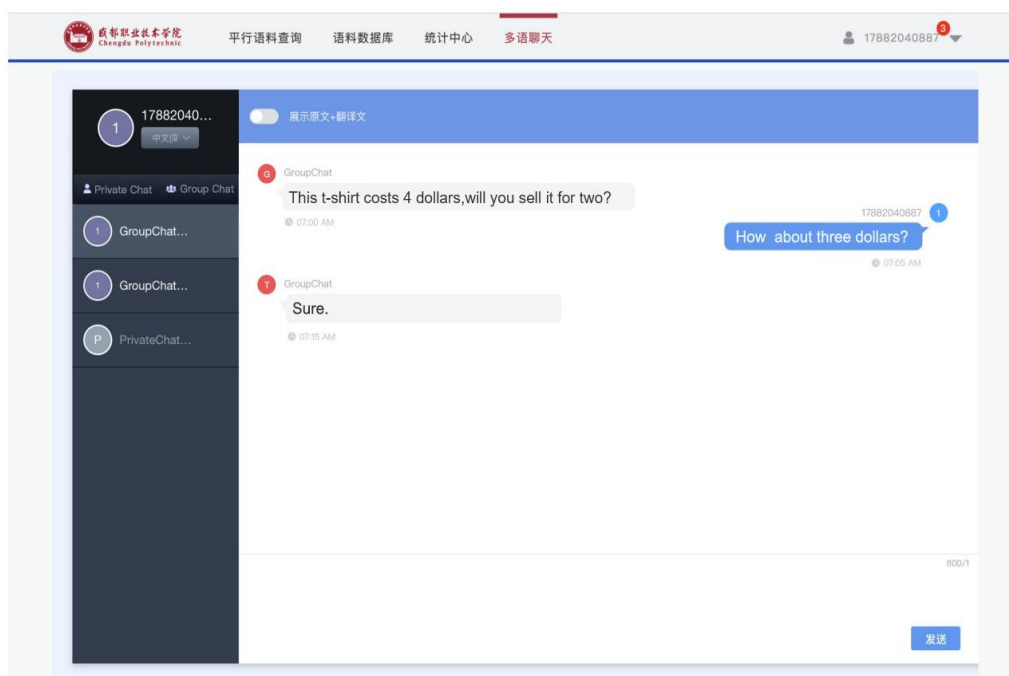


Figure 4. Simulated Interaction Function of the Corpus Learning Platform

3. Course Design

The overall course design of the Cross-border E-commerce English follows the data-driven learning model proposed by Tim Johns and his colleagues (Johns, 1991; Johns & King, 1991). The logics inherent in DDL is that learners could become detectives to discover linguistic patterns and rules when immersed in samples of naturally-occurring language. However, it is unfeasible for higher vocational college students to have direct interactions with corpora as their English proficiency is relatively low. As Boulton (2010) suggests, activities with prepared DDL materials are more effective for lower-level learners. In this sense, we adopted teacher-constructed concordance tasks, which is the less autonomous version of DDL proposed by Vincent (2013) and provided a structured, scaffolded framework for inductive learning (Jonathan, 2014). The guided DDL is organized into three phases as shown in Figure 5, below.

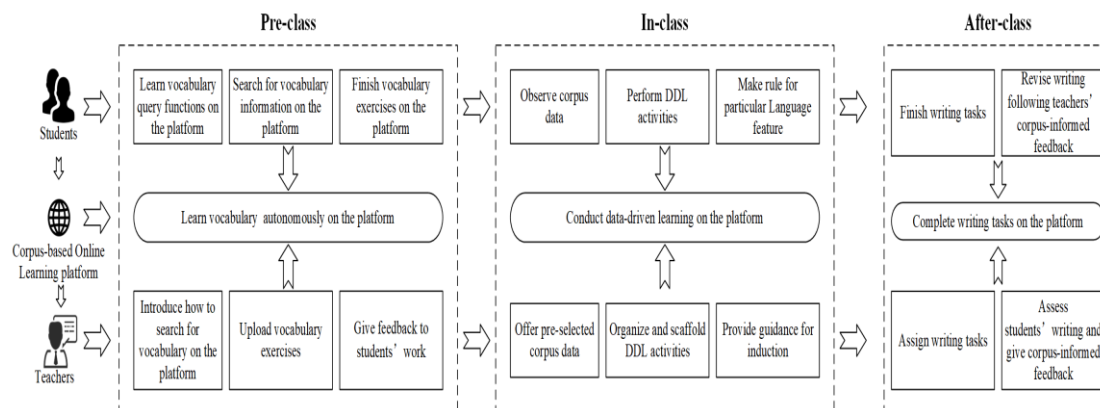


Figure 5. A Three-Step DDL Enabled by a Tailor-Made Corpus Learning Platform

(1) Flipped vocabulary learning before class: the learners learn how to search for relevant information following a manual uploaded by teachers to the platform and finish vocabulary exercises by consulting the parallel corpora embedded in the platform (see an example in Figure 6). Teachers then give written feedback to student work, upon which learners can remedy the errors.

Vocabulary Exercise:

Interpret concordance lines using “shoes, boots or sandals...” as the search word on the platform and describe the following pictures with proper footwear terminologies in both Chinese and English.



Below are sample concordance lines using “shoes” as the search word:

Figure 6. Sample Vocabulary Exercise for Flipped Vocabulary Learning

(2) Guided data-driven learning in class: the learners observe concordance data and perform DDL activities derived from CECLOTE, both of which have been prepared and preselected by teachers before class. Learners then engage in the language discovery process through discussion. Teachers, if necessary, give hints to help learners make rules for the language feature common in or peculiar to cross-border e-commerce English.

(3) Writing practice after class: the learners complete writing tasks using the vocabulary and grammatical patterns learned through the previous two stages. Teachers assess and give corpus-informed feedback which facilitates students' revision to their first drafts.

4. Methodology

To date, research on the effects of applying corpus-based platform in teaching and learning cross-border e-commerce English, with higher vocational English learners as the subjects, is still in its infancy. There are studies suggesting that a course spanning a short-term span of 10 weeks do not suffice to enable much progress in L2 proficiency (Lennon, 1995; Politzer & McGroarty, 1985; Rifkin, 2005; Storch, 2009). Therefore, this study investigates the long-term progress spanning 20 weeks in L2 writing proficiency by gauging the learners' writing quality in the pre- and post-tests.

4.1 Participants

The subjects of this study are 83 e-commerce majors from 2 classes in their fourth semester at Chengdu Polytechnic, and have a mean age of 21. Chinese is the first language for all of them. As EFL learners, all subjects had at least six years' English learning experience before being admitted to the college. Prior to taking the cross-border e-commerce English course, they have studied General English for one freshman year as their compulsory course. One class was randomly assigned as the experimental group (EG, $n = 41$, including 27 females and 14 males) while the other as the control group (CG, $n = 42$, including 29 females and 13 males). The same teaching materials, textbook, and assessment scheme were applied to both groups. In order to reassure the linguistics homogeneity, a validated test (Practical English Test for Colleges Level A, PRETCO-LA) to assess learners' writing ability was administered to the participants in the two groups at the beginning of the semester. The result of the Independent Sample t-Test indicated that there was no significant difference between the EG and CG ($p = 0.080$). Thus, it can be assured that the participants were comparable in terms of their English proficiency.

4.2 Data Collection

For both pre-test and post-test, students of CG and EG were asked to write a product description for shoes which includes a headline, a description paragraph introducing the features, a bulleted list of technical details, social proof and a conclusion calling to action. Two vocational English teachers with more than 10 year's teaching experience assess the written work of all participants in the EG and CG using an analytic scoring rubric developed by Tribble (1996). The average inter-rater reliability coefficient was reported to be 0.79. Since none of the participants has prior knowledge about English specific to cross-border e-commerce, Week 1 was spent on introducing learners to the course. The

pre-test was then conducted in Week 2 and the post-test conducted in Week 20. Whereas the EG received guided DDL instruction with the aid of corpus-based platform, the CG was taught by traditional Presentation-Practice-Production (PPP) method.

4.3 Data Analysis

Difference in scores between pre-test and post-test within a group was analyzed for both the CG and EG. The results, presented in table 2, showed that both groups have made improvements to their writing performance as the mean score of the CG increased from 78.488 (SD=6.1580) in the pre-test to 82.917 (SD=4.8727) in the post-test while the mean score of the EG increased from 77.061 (SD=6.9572) in the pretest to 85.512 (SD=3.0913) in the post-test.

Independent sample t-test compared the pre-test and post-test mean scores between the CG and EG, which showed that there was no difference between the groups ($p=0.335$) in the pre-test, whereas a significant difference in favor of EG was identified between the groups ($p=0.000$). The findings indicated that students' writing proficiency developed to a greater extent with the implementation of DDL-ized cross-border e-commerce English writing instruction than with conventional PPP pedagogy.

Table 2. Descriptive Statistics for the Pretest and Posttest

Time	Group	Mean	SD	N
pretest	CG	78.488	6.1580	42
	EG	77.061	6.9572	41
	Total	77.783	6.5640	83
posttest	CG	82.917	4.8727	42
	EG	85.512	3.0913	41
	Total	84.199	4.2705	83

5. Implication and Contribution

Since the aim of this study is to explore the feasibility and effectiveness of adopting corpus-based cross-border e-commerce English writing instruction for lower-efficiency EFL learners at vocational colleges, which is an under-explored area of research, the findings of this study will enrich both the theory and practice of applying DDL in L2 teaching and learning. The current study outlined, implemented and evaluated a pedagogical model suited to the level and needs of vocational college ESP learners, and hence it could provide conceptual recommendations and methodological solutions for those who wish to enhance English language education in the vocational college context by corpus-based means. A major problem for vocational school EFL learners whose English proficiency is at a lower level, is that they lack the cognitive abilities necessary for sophisticated language work, and yet most conventional ESP learning materials are compiled without in-depth investigation into how authentic language is being used in the original context. As such, the corpus-based pedagogy proposed

here allows teachers and researchers to take a further step towards a paradigm shift where spoon-fed learners become “language detectives” (Johns, 1997, p. 101). Also, as scant attention has been paid to employing corpus-assisted teaching in the context of vocational colleges, this study will be conducive to raising awareness of and excitement in utilizing corpora and corpus tools to facilitate EFL learning for vocational college learners.

6. Conclusion

The present study explored the effectiveness of corpus-based cross-border e-commerce English writing instruction enabled by a custom-made corpus-based learning platform, which focused on the learning needs of less-proficient learners at vocational colleges.

Between-groups comparison results showed that the experimental group outperformed learners in the control group which render evidence that it is feasible to adopt DDL in learning cross-border e-commerce English and such findings presumably can be generalizable to other ESP contexts. Albeit the positive findings, the study is not without limitations. First, this study did not investigate the age and gender of participants as potential mediating variables, and hence it is advisable for future studies to explore their probable influence on the effects of corpus-based writing instruction. Second, this study compared the effects of corpus-based pedagogy with conventional PPP practice while much is yet to be known regarding to what extent learners benefit from the DDLized writing instruction facilitated by specialized corpora and accordingly a custom corpus platform as opposed to DDL assisted by other publicly available corpora and corpus platforms. So, future studies are suggested to devise two experimental groups, one working with custom corpora and corpus tools while the other with publicly available mainstream ones.

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