THE INFLUENCE OF "PRODUCTION-ORIENTED APPROACH" TEACHING ON THE DEVELOPMENT OF COLLEGE ENGLISH WRITING FLUENCY AND WRITING STRATEGIES

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Abstract: This paper adopts the action research method and designs the corresponding "Production-oriented approach"(POA) teaching of college English based on the diagnostic test report of the "Udig" platform, to explore whether POA teaching can effectively improve students' English writing fluency and strategies. After one semester of POA teaching, with the statistics of the pre-test and the post-test compared, we find that POA teaching can effectively improve students in more fluent output in writing in terms of word number, word length, sentence number and sentence length; and also in better usage of writing strategies in the aspect of accumulation of writing materials, diversification of vocabulary and expression, the polishing of the text and structure of writing the whole passage.
Keywords: Production-oriented approach; Diagnostic assessment; Action research

1 INTRODUCTION

In recent years, concepts such as "assessment for learning" and "learning-oriented Assessment" have been a growing trend, diagnostic tests as a new generation of test theory in language testing, have received more and more attention, as a practical application of test areas, diagnostic assessments are designed to provide learners with detailed feedback for the next stage of their learning [1].Diagnostic Assessment System (Udig) is a platform created by Foreign Language Teaching and Research Press, provides diagnostic assessments based on the "Rating Scale of English Proficiency of Chinese College Students" for ability level analysis. He Lianzhen [2] proposed that diagnostic assessment offer personalized feedback for the future development of students and the design of compensatory teaching and learning activities. As we know, it is difficult to dedicate time to writing strategies development and writing practice in college English teaching, the concept of "output-oriented method" highlights the close combination of input learning and output-based application in college English, few research are conducted on the effect of highlighting "input" on the development of writing strategies and writing fluency.

2 LITERATURE REVIEW

2.1 Production-Oriented Approach

Production-oriented approach is a unique foreign language teaching method for Chinese universities advanced by Professor Wen Qiufang's team. This approach highlights cognitive assumptions that emphasizes the close combination of input learning and productive application.
In the teaching, the teaching objectives are highlighted with three teaching steps of driven-enable-evaluate in guided teaching with clear goals in the output of language in both driven-and evaluate steps, where in the middle steps of teaching, teachers offer scaffolding help that are needed in the other two steps [3]. The teaching content is placed in a very clear position, and the explicit reinforcement are presented again and again in the limited classroom time. It has been 15 years since the "Production-oriented approach" was first proposed, and some studies have been conducted with specific teaching purposes in the classroom Empirical studies, for example, Zhang Lingli [4], found transformation of students' English learning concepts, improvement of self-confidence and interest in learning, as well as the development of comprehensive ability, are better under this teaching approach, ; Zhang Wenjuan [5] research results show that POA has a significant effect on students' writing skills.

2.2 Diagnostic Assessments

Diagnostic assessments include tests and self-assessments aiming at improving students' self-recognition in language skills, in understanding the standards testing, and improving the awareness of learning strategies of the target language that are

tested [6]. The main diagnostic language testing systems in the academic context are the DIALANG, DELTA(Diagnostic English Language Tracking Assessment),DELNA(Diagnostic English Language Need Assessment, University of Auckland) [1], and foreign language teaching Udig (https://unilearn.fltrp.com).Diagnosis Assessment includes language proficiency testing and cognitive ability testing [7-8]. Language proficiency testing is a test or exam, while cognitive ability assessment is a test of strategy, efficacy, and other aspects. Through the diagnosis of these two factors, students can not only see their grades but also receive corresponding learning strategies and suggestions. For teachers, the diagnostic results also contribute to the adjustment of teaching objectives, teaching design, etc. Pan Mingwei, Song Jieqing, & Deng Hua [9] conducted a research on "Online English development and validity verification of self-assessment scales in language writing diagnostic assessments", proposing that teachers can incorporate students' self-assessment into diagnostic assessments evaluation to obtain feedback information, and then use data to guide teachers to carry out corresponding compensatory teaching.

On the other hand, the introduction and applied research on diagnostic assessments are carried out. Sun Hang [10] conducted research on the feedback results of reading diagnostic assessments and believed that diagnostic assessments can help teachers understand the mastery of different reading micro skills by student, and adjust teaching objectives and content to guide the students to learn and improve in a targeted manner. In short, self-evaluation in diagnostic assessment can truly promote learning through evaluation [11].

3 RESEARCH DESIGN

3.1 Research Objectives

We aim at exploring the diagnostic test feedback of the online diagnostic assessment platform "Udig" (University Edition) developed by the Foreign Language Teaching and Research Press, and design compensatory teaching for college English comprehensive courses based on the "production- oriented approach" (POA) driven by feedback opinions, and exploring the impact of POA teaching design on improving fluency in college English writing and enhancing writing strategies.

3.2 Research Participants

The participants of this study are students in the second semester of their first year of college English course at a university in South China, who have not yet taken the College English Test (CET) and are taught by the same teacher.

3.3 Diagnostic Assessment tools

The assessment tools for pre-test and post test are the English CET-4 argumentative essay test on the "Udig" platform, and the self-assessment scale for writing strategies after completion of the writing (a total of 22 questions). The questions involve content preparation before writing, content selection during writing, material collection, vocabulary diversification, expression methods diversification, polishing and modification, discourse structure, tone, style, grammar, punctuation, and other writing strategies self-assessment. The above items are measured using a 4-point scale, ranging from "completely unachievable" (1 point), barely achievable (2 points), basically achievable (3 points), and achievable (4 points). Based on the research question, we only extracted five self-assessment questions about writing content strategies from the pre-test and post test analysis (Question 1: Planning Strategy - Material Accumulation, Questions 2, 3, and 4: Content Generation Strategy - Vocabulary, Expression, and Editing, Question 5: Chapter Organization Strategy - Chapter Structure). The specific title wording is: 1) Planning Strategy - Material Accumulation: I am able to collect and organize writing materials as needed when writing; 2) Diversification of vocabulary: When writing, I can use common words or phrases according to changes to avoid repetition in the text; 3) Diversified means of expression: When writing, I can enhance the effectiveness of expression by using some rhetorical devices; 4) Polishing of the text: I am able to modify the wording, sentences, and structure of the text as needed when writing; 5) discourse structure: When writing, I am able to organize the article according to the planned structure and achieve clear hierarchy(questionnaires referred to the expression in the Chinese English Proficiency Scale for Evaluation Language).

3.4 Action Research

3.4.1 Pre-testing

Participants completed a writing test on the "Udig" platform, and at the beginning of the semester, a pre-test for writing CET-4 argumentative essays was conducted based on the "Uidg" platform. The two natural classes conducted the same test time, with the same writing content and different adjustments to the order of evaluation content, totaling 50 minutes. After completing the writing of the CET-4 argumentative essay, participants are required to complete a self-assessment scale for writing strategies, including material accumulation, vocabulary diversification, expression diversity, polishing of the text, and discourse structure. Based on the data from the pre-test and post test self-assessment, there were a total of 103 students who were able to complete the overall assessment. Therefore, these 103 students were selected as our research subjects for this study.

3.4.2 Analysis and diagnosis of pre-test data

Based on the "Optimal Diagnosis" test report, analyze the learners' existing writing level and their strategy self-assessment scale data. The evaluation report shows that students' overall self-assessment scores for writing strategies are low, indicating problems in writing such as "low language sensitivity and insufficient absorption and application of language knowledge". Teaching suggestions are also provided, such as "encouraging students to boldly use the language knowledge they have learned in writing practice, and strengthening the accuracy and fluency of language knowledge application through continuous practice". By analyzing the writing scores of diagnostic tests and corresponding teaching suggestions, identifying the problem, and starting compensatory teaching through the selection of teaching materials and the design of teaching activities.

3.4.3 Research questions

In response to teaching suggestions such as "encouraging students to boldly use the language knowledge they have learned in writing practice, and strengthening the accuracy and fluency of language knowledge application through continuous practice", we propose the POA teaching method as a compensatory teaching activity design to verify the following two questions:

1). Will POA teaching lead to changes in students' writing fluency?
2). Will POA teaching lead to changes in students' awareness of writing strategies?

3.4.4 POA teaching

Adopting the compensatory teaching concept based on the POA, after one semester of 2 face-to-face classes of teaching per week, the teaching content is the second volume of the third edition of "New Horizon College English". The "production-oriented approach" teaching mode mainly includes the following 3 processes: 1) Driving-process: designing writing to stimulate the desire for expression based on the theme of the text - evaluating and analyzing the strengths and weaknesses of writing expression, and providing revision suggestions; 2) Enabling-process: Emphasize the teaching of exciting phrases and sentence structures in the text, and strengthen the awareness of improving language sensitivity and quality through highlighting methods such as translation, fill in the blank, sentence construction, and use in writing; 3) Evaluating-process: Conduct a second writing session, emphasizing the use of three word, four word phrases or excellent sentence patterns from the text. Emphasize the use of phrases and sentence patterns again through writing using underlined phrases, calculating expressions used to highlight the target phrases and expressions. Practice the diagnostic assessment report's of "improving language sensitivity, strengthening the accuracy and fluency of language knowledge application through continuous practice" in teaching activities.

3.4.5 Post testing

In the post test, we use a self-assessment scale for writing efficiency and writing strategies after wiring a CET-4 argumentative essay writing, at the same writing level and the similar content compared with the pre-test but the self-assessment scale questions appeared in different order. SPSS27.0 software was used to statistically compare the pre-test and post-test evaluation reports, to evaluate and analyze the result in the corresponding research questions.

3.5 Data Collection

In the writing proficiency test, all students were able to complete their writing submissions within the specified time. However, in the subsequent self-evaluation test, if incomplete forms were found, the incomplete self-evaluation papers were excluded, and the sample size for the second part was only 97. SPSS 27.0 was used for data statistics.

3.5.1 Writing fluency

The main observation of writing fluency in our research mainly focuses on the changes in the number of words(WN.for short), average word length(Avg.WL for short), number of sentences(SN for short), and average sentence length(Avg.SL for short) of students' writing in the pre-test and post test. The feedback data from the testing system is put into SPSS27.0 statistical software, and the T-test of pre-test and post test statistical results are shown in Table 1:

Table 1 Independence Sample Test of Writing Fluency

A(Levene's Test)					vAvg. Equal Variance T Test			
F	F	Sig.	T	Sig.(T-T)	MD	SD	95% CL	95% CU
WN　Equal Variance	2.066	0.152	-9.819	< 0.001	-47.7331	4.86159	-57.3043	-38.16330
Unequal Var.			-9.819	< 0.001	-47.7331	4.86159	-57.3043	-38.15877
Avg.WLEqualVar.	.000	1.000	.000	1.000	.00000	.03992	-.07858	-.07858
Unequal Var.			.000	1.000	.00000	.03992	-.07858	-.07858
SN　Equal Var.	1.585	.209	-6.090	< 0.001	-2.17266	.35764	-2.87493	-1.47039
Unequal Var.			-6.090	< 0.001	-2.17266	.35764	-2.87518	-1.47014
Avg.SLEqual Var.	.191	.662	-3.529	< 0.001	-1.74820	.49536	-2.72337	-.77303
Unequal Var.			-3.529	< 0.001	-1.74820	.49536	-2.72342	-.77298

Note: *p<0.05

From Table 1, it can be seen that in terms of word number, the Levene's variance homogeneity test Sig=0.152 is greater than 0.05, indicating that there is no significant difference in variance between the pre-test and post test, assuming the assumption of equal variance. The mean value of the two tests is equal to the t-test Sig (two tailed)<0.001, which is less than 0.05, indicating a significant difference in the mean values of the two tests. Therefore, it can be concluded that there is a statistically significant difference between the pre-test and post test scores; In terms of sentence number, the Levene's test for homogeneity of variance Sig=0.209, which is greater than 0.05, indicates that there is no significant difference in variance between the pre-test and post test, assuming the assumption of homogeneity of variance. Sig. T-T (Significance two-tailed)=0.001, less than 0.05, indicates a significant difference in the average of the two tests. Therefore, it can be concluded that there is a statistically significant difference in pre-test and post test scores; In terms of average sentence length, the Levene's variance homogeneity test Sig=0.662, which is greater than 0.05, indicates that there is no significant difference in variance between the pre-test and post test, assuming the assumption of equal variance. The mean value of the two tests is equal to the t-test. Sig. T-T (Significance two-tailed)<0.001, which is less than 0.05, indicating a significant difference in the mean values of the two tests. Therefore, it can be concluded that there is a statistically significant difference between the pre-test and post test scores; However, in terms of average word length, the Levene's test for homogeneity of variance Sig=1.000, which is greater than 0.05, indicates that there is no significant difference in variance between the pre-test and post test, assuming the hypothesis of equal variance holds. The mean value of the two tests is equal to the t-test Sig (two tailed)=1.000, which is greater than 0.05, indicating that there is no significant difference in the mean values of the two tests. Therefore, it can be concluded that there is no statistically significant difference in the pre-test and post test scores. There were significant changes in the number of words, sentences, and average sentence length between the pre-test and post test, indicating that teaching activities based on POA can significantly improve students' writing fluency.

3.5.2 Writing strategies

The main focus is on detecting changes in students' self-evaluation of material accumulation (MA for short), word diversity(WD for short), expression diversity (ED for short), text polishing(TP for short), and discourse structure(DS for short) in the completed scale after writing, as shown in Table 2:

Table 2 Independence Sample Test of Writing Strategies

| A(Levene's Test) | | | | | vAvg. Equal Variance T Test | | | |
F	F	Sig.	T	Sig.(T-T)	MD	SD	95% CL	95% CU
MA Equal Variance	26.592	<.001	-17.755	< 0.001	-1.65979	.09348	-1.84418	1.47540
Unequal Var.			-17.755	< 0.001	-1.65979	.09348	-1.84445	-1.47514
WD EqualVar.	3.332	.070	-15.199	< .001	-1.46392	.09632	-1.65390	-1.27394
Unequal Var.			-15.199	< .001	-1.46392	.09632	-1.65400	-.1.27383
ED Equal Var.	3.572	.060	-10.196	< 0.001	-1.07216	.10516	-1.27957	-86476
Unequal Var.			-10.196	< 0.001	-1.07216	.10516	-1.27963	--86470
TP Equal Var.	15.871	<.001	-14.566	< 0.001	-1.39175	.09555	-1.58021	1.20330
Unequal Var.			-14.566	< 0.001	-1.39175	.09555	-1.58046	-1.20305
DS Equal Var.	.079	.779	-14.906	< .001	-1.46392	.09821	-1.65762	-1.27021
Unequal Var.			-14.906	< .001	-1.46392	.09821	-1.65769	-1.27014

Note: *p<0.05

According to Table 2, in the Levene's test for homogeneity of variance for "material accumulation", Sig.=0.001, which is less than 0.05, indicates that there is a significant difference in variance between the pre-test and post test. Meanwhile, the mean values of the two tests were found to be equal using a t-test with Sig. (T-T) =0.001, which is less than 0.05, indicating a significant difference in the mean values between the two tests. From this, it can be concluded that there is a statistical relationship between pre-test and post test scores. The Levene's ANOVA test for "word diversity" showed Sig=0.070, which is greater than 0.05, indicating that there is no significant difference in variance between the pre-test and post test, assuming the assumption of equal variance. Meanwhile, the average value of the two tests is equal, the Sig. (T-T) test was found to be 0.001, which is less than 0.05. Therefore, it can be concluded that there is a significant difference in the average values between the two tests; in the Levene's test for homogeneity of variance for "diverse means of expression", Sig.=0.060, greater than 0.05, indicates that there is no significant difference in variance between the pre-test and post test, assuming the hypothesis of equal variance holds. At the same time, the mean of the two tests is equal to the t-test Sig. (T-T) =0.001, less than 0.05, indicates a significant difference in the average of the two tests. Thus, it can be concluded that there is a significant difference in pre-test and post test scores. The ANOVA test for "text polishing" showed Sig.=0.010, which is greater than 0.05, indicating a significant difference in variance between the pre-test and post test. At the same time, the mean of the two tests is equal to the t-test Sig. (T-T) =0.001, less than 0.05, it can be concluded that there is a significant difference in the average value between the two tests; Regarding the 'discourse Structure', the homogeneity test of variance Sig=0.779, greater than 0.05, indicates that there is no significant difference in variance between the pre-test and post test, assuming equality. At the same time, the mean values of the two tests were equal to the t-test Sig. (T-T)=0.001, which is less

than 0.05, indicating that there is a significant difference in the average of the two tests. From this, it can be concluded that there is a statistically significant difference in pre-test and post test scores.

4   DATA ANALYSIS AND DISCUSSION

4.1 Will POA Teaching Lead to Changes in Students' Writing Fluency?

The teaching activity of POA emphasizes output skills, starting from the driving stage to stimulate students' demand for output expression. Through the gaps in expression, students can perceive the learning goals and directions. In the facilitating stage, they receive language input and the expression framework provided by the teacher. By comparing cognitive gaps and expression frameworks, they can more clearly compare excellent and poor expressions, and improve their sensitivity to excellent expressions in the input content. In the evaluation stage, they can repeatedly strengthen their training in writing expression through writing application. The design of POA encourages students to strengthen and improve their expression by using three word, four word phrases, and refined sentence patterns. Therefore, they are more proficient in writing and increase their absorption and application of language knowledge in the teaching process. There were significant changes in the number of words, sentences, and average sentence length between the pre-test and post test, indicating that teaching activities based on POA can significantly improve students' writing fluency. But there was no significant change in word length between the pre-test and post test, mainly due to our compensatory approach. There is no specialized training for word replacement in teaching activities, only phrase combinations and sentence patterns are highlighted, which further demonstrates that students' language sensitivity can be strengthened with targeted measures. This is also in line with the research findings of domestic and foreign scholars (such as Nation 2001 [12]; Meara 2005 [13]), The improvement of writing fluency mainly lies in the overall extraction and output of phrases, sentence patterns, and other chunks, which is also due to the increased frequency, attention, focus, learning or usage needs of chunk training in POA-driven teaching process. Learners' participation in the target language has improved the speed of language application.

4.2 Will POA Teaching Lead to Changes in Students' Awareness of Writing Strategies?

The teaching activity of POA is a teaching mode emphasizing more interaction between teachers and students, and between students. The multi-dimensional teaching activity of driving, enabling, and evaluating can fully attract students' attention and learning interest. In this teaching process, the learning of phrases and sentence patterns is highlighted, so students can collect and organize writing materials as needed when writing. After a semester of teaching, a post test was conducted on the "Udig" platform. Comparing the data, it was found that students had a significant improvement in "material accumulation". At the same time, in the evaluation section, the use of different phrases was counted, which also aroused students' awareness of "vocabulary diversity" and the diversity of expression methods in terms of wording, sentences, and other aspects; At the same time, the repeated evaluation of writing also enhances the awareness of discourse structure. It can be said that the teaching design driven by POA helps students better mobilize the application of strategies. As Zhuang Zhixiang and Shu Dingfang [14] pointed out, every language learner will consciously or unconsciously adjust all their existing knowledge and cognitive strategies when attempting to complete a certain learning and cognitive task, and in many aspects, learner strategies show astonishing consistency.

5   CONCLUSION

After a semester of teaching action research, we found that based on feedback reports from diagnostic tests, teachers can quickly understand students' learning levels, especially the self-evaluation information of writing strategies attached to the "Excellent Diagnosis Learning" diagnostic assessment. Evaluation feedback and suggestions can help teachers better design teaching. The "production-oriented approach" teaching design can provide more direct exercise for the development of college English writing in comprehensive teaching. The repeated training of text phrases such as three words and four words has indeed been strengthened and accumulated in teaching, and there is a significant improvement in fluency in writing in the post test compared to the pre-test. In the multiple learning tasks of driving facilitating evaluation, students' accumulation of writing materials, vocabulary, expression methods, There have been significant improvements in polishing discourse structure. These results indicate that instructional design driven by the output oriented approach can effectively enhance students' awareness of English writing strategies and fluency in writing.

COMPETING INTERESTS

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REFERENCES

[1]   Jin Yan, Yu Guoxing. Column Introduction: Development and Validity Research of Diagnostic Language Assessment. Frontiers of Foreign Language Education Research, 2019(4): 23-24.

[2]   He Lianzhen. Application of the Chinese English Proficiency Scale in Compensatory Teaching and Learning. Foreign Language Testing and Teaching, 2021(03): 1-11.

[3]   Wen Qiufang."Output driven Input driven Hypothesis": An Attempt to Construct a Theory of College Foreign Language Classroom Teaching. China Foreign Language Education, 2014: 7 (02): 3-12+98.

[4]   Zhang Lingli. Research on the Teaching Effectiveness of "Output oriented Method". Modern Foreign Languages, 2017, 40 (03): 369-376+438.

[5]   Zhang Wenjuan. Experimental Study on the Influence of Output oriented Approach on College English Writing. Modern Foreign Languages, 2017, 40 (03): 377-385+438-439.

[6]   Liu Jianda. Self assessment of Students' English Writing Ability. Modern Foreign Languages, 2002 (3): 241-249.

[7]   Alderson JC. Diagnosing Foreign Language Proficiency: The Interface Between Learning and Assessment. New York: Continuum, 2005.

[8]   Leighton J P, M J Gierl. Verbal reports as data for cognitive diagnostic assessment. Cognitive Diagnostic Assessment for Education: Theory and Applications. Cambridge: Cambridge University Press, 2007: 146-172.

[9]   Pan Mingwei, Song Jieqing, Deng Hua. Development and Validity Verification of Self evaluation Scale in Online English Writing Diagnostic Assessment. Frontiers of Foreign Language Education Research, 2019(4): 33-41+91-92.

[10] Sun Hang. Cognitive Process of Middle School Students in English Reading Diagnosis Assessment. Frontiers of Foreign Language Education Research, 2019(04): 25-32+91.

[11] Wu Zunmin. Diagnostic Language Assessment Provides Basis for Classroom Teaching Decisions, English Learning, 2017(8): 20-25.

[12] Nation I S. Learning Vocabulary in Another Language: Cambridge University Press, 2001.

[13] Meara P. Lexical frequency profiles: A Monte Carlo Analysis. Applied Linguistics, 2005, 26(1): 32-47.

[14] Shu Dingfang , Zhuang Zhixiang. Research on Foreign Language Learners' Strategies and Foreign Language Teaching. Modern Foreign Languages, 1994 (03): 28-32+72.