Universe Scientific Publishing

DOI:10.18686/ahe.v8i4.13350

The Application of Explicit Instruction and Scaffolding Models Based on the Process-Oriented Approach in the Course of Writing SCI Papers for Doctors

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Abstract: Despite the objections to the evaluation system of SCI papers in China,we do not oppose the training of graduate students in writing and publishing SCI journal papers.With the increasing international communication between Chinese medical professionals and their counterparts,it is very urgent to cultivate Chinese doctors'professional language competencies.

To facilitate the teaching and learning experience,we have developed a process-oriented approach for doctors to write SCI papers,using explicit instruction and scaffolding models.The results demonstrate that we have seen positive effects on teaching,and the students have improved their overall writing skills to a certain degree.

Keywords: Writing SCI Papers; Explicit instruction; Scaffolding theories; The process-oriented approach

Fund Project:

Supported by the English writing ability improvement program for doctoral students in medical theses—Taking Ningxia Medical University as an example(Grant No.2023075).

1. Introduction

Since China joined the World Trade Organization,increased international communication has led to competition and challenges for Chinese medical professionals from their foreign counterparts.This urgently requires Chinese doctors to possess high professional language competencies.In addition,clinical and research work necessitates them to expand their knowledge and solve difficult problems by reading medical literature or translating foreign language materials.Today,the most influential medical papers published in English journals and indexed by the Science Citation Index(SCI)are an important channel for international medical exchange,mutual understanding,and experience sharing.This helps Chinese medical professionals gain recognition from peers and society but also improve their medical research and cultivate the comprehensive abilities of medical students[1].

SCI medical papers are renowned for their influence,authority,and fair and transparent review process.Moreover,the quantity and quality of SCI paper publications are often used to evaluate the research ability of universities and research institutions,meanwhile,the number of published papers and citation rates are important factors in assessing researchers'scientific and technological achievements.

Ningxia Medical University has always focused on cultivating clinical abilities and emphasizing the development of comprehensive qualities in its teaching philosophy.Additionally,the publication of SCI papers plays a crucial role in the graduation assessment of PhD candidates.In this case,with the course"Medical English Paper Writing"offered to doctoral students at Ningxia Medical University,we aim to explore the effectiveness of applying explicit instruction and scaffolding models based on the process-oriented approach in Medical English Paper Writing for SCI Journals.

2. Literature Review

The course is designed based on explicit instruction and scaffolding theories.Explicit instruction,different from implicit instruction,is a systematic method of teaching with emphasis on proceeding in small steps,checking for understanding,and achieving active and successful participation by all second language learners[2].Instruction is explicit when teachers tell second language learners

what they need to do using direct explanations and sharing and modeling new knowledge[3].In contrast,implicit instruction requires second language learners to discover patterns through meaningful reading with neither explaining to them the language rules nor targeting to focus on specific language forms[4].

Scaffolding theories are derived from constructivist ideas.According to Vygotsky[5],"Any higher mental function goes through an external stage in its development because it is initially a social function".Scaffolding is a method of teaching that helps learners understand educational content by working with teachers or someone who better understands the material.The concept suggests that students learn more when collaborating with individuals with broader knowledge[6].The scaffolds reflect a learner-centered teaching philosophy,where scaffolds are gradually increased,modified,or removed based on the learner's mastery level until they are finally dismantled,which are progressive heuristic teaching methods.

The process-oriented approach focuses on the student's writing process,emphasizing helping them discover,analyze,and solve problems during the writing process.Through diverse teaching activities,teachers guide writing at the discourse steps,including various stages such as brainstorming,outlining,drafting,and revising.The teacher's guidance runs through the entire writing process until the final draft is completed[7].

3. Course Design

This course is 2 credits,with 32 periods and 30-36 students per class.The textbook is"Medical English Paper Writing and International Conference Communication"edited by Sun Qingxiang,and published by Fudan University Press.To enhance the effectiveness of the process-oriented approach,we have created the following classroom activities:[8]

Firstly,grouping:Students were divided into groups according to their disciplines and majors,generally with 6-7 people per group. At the beginning of the semester,each group drew lots to determine the writing tasks for the six sections,Manuscript design,Introduct ion,Methods,Results,Discussion,and Abstract.

Secondly,topic choosing:With several topics on biomedicine provided by the teacher,each group selected a topic to work on together throughout the semester(the topic could be further refined into the paper title as the study progressed).

Thirdly,papers downloading:Each group member searched for the related articles from top biomedical science and technology journals selected,such as Nature,Science,Cell,JAMA,Lancet,and New England Journal of Medicine.The preferred articles were those that had generated widespread interest.Additionally,they should have a large readership,adhere to standard writing conventions,maintain a rigorous structure,use accurate and concise language,and embody the writing style commonly found in fundamental medical English scientific papers.Each member selected 1-2 complete research papers(not review articles)with high-impact factors published in the past two years,and the authors should be from English-speaking countries and native English speakers.

In class,following the main content layout of the most common AIMRAD(Abstract,Introduction,Methods,Results,and Discussion) elements in SCI papers[9],the teacher first used textbook materials for analysis and demonstration,leveraging the exemplary role of excellent medical papers in format and sentence patterns to help students input rules and standardized expressions related to language use.After studying each unit,students worked in small groups to collaboratively complete the writing of an SCI paper based on the process-oriented approach.

The following demonstrated the completion of writing process activities by all group members for the Introduction section of the paper.

3.1 Planning:Students were assigned to read the Introduction and Chapter 4 of the textbook,as well as some downloaded journal papers.They should focus on the writing techniques utilized in the introduction section,and identify the verbs,tenses,syntactic structures,and common expressions used in the journal papers.This involved summarizing findings,comparing findings,providing explanations,proposing significance,and analyzing deficiencies.

3.2Drafting:The teacher first analyzed and explained the introductory section in the textbook materials and then instructed the students to complete the relevant exercises.The team member in charge of the Introduction started drafting the first section based on the group's topic chosen,following the structure of journal papers downloaded before.

3.3Peer-reviewing:After completing the Introduction,group members were to print six copies of the pre-written Introduction. The teacher then randomly distributed these copies to other groups,who independently reviewed and commented on the work before coming together to discuss.They then summarized the feedback and provided it to the author.

3.4Revising:The author of the Introduction collected the reviewed feedback in class and was requested to revise the introduction section after careful reading and reflection on it after class.Afterward,the author sent the edited paper to the teacher via email.

3.5Responding:After receiving the revised paper from the student,the teacher first reviewed it and summarized the common errors found in the revised introduction section.The teacher then shared these common errors with the entire class and asked the

students to identify and correct them together.The student then made a second revision based on the teacher's feedback and later returned it to the teacher.

3.6Publishing:At the conclusion of the semester,the teacher compiled the individual sections written by the group members into a complete article and bound them in book form,creating a lasting record of the collaborative effort.

In all,the six stages could be executed iteratively and cyclically,fostering an environment conducive to skill development. Utilizing downloaded medical papers as exemplars of standardized formatting and sentence patterns could significantly improve students'understanding of language protocols and standardized expressions.Such practices helped improve proficiency in using professional medical English and develop effective com

4. Discussion and Conclusion

The"Medical English Paper Writing and International Conference Communication"course posed a significant challenge for both teachers and students.We applied explicit instruction and scaffolding theories,designing classroom activities based on the process-oriented approach with the participation of both teachers and students.This approach reflected a student-centered teaching philosophy.

In addition,we conducted questionnaire surveys and interviews with students before and after each course:pre-course mainly for needs analysis and post-course for gains analysis.

According to the surveys,students often mentioned that even though they had read many articles for inspiration in the past,they still had difficulties in writing.However,after completing a semester of studying,which included composing and revising papers as well as referencing downloaded documents,students gained a full understanding of the structure and language features of English journal papers.As a result,they were able to write their own papers.They reported improvements in the following areas:

4.1Language ability:Students enhanced their academic paper writing skills,including overall discourse structure,expressing positions using language resources,adhering to academic norms and applying citation strategies,and improving critical thinking abilities.Moreover,they can apply these skills in real writing,and accumulate high-frequency sentence patterns and vocabulary.They also understood their common grammatical errors and how to avoid them in the future.

4.2Professional academic ability:There was a noticeable improvement in the literature review and summary.Additionally,by reading the literature review,students gained knowledge of new research trends in their field.They mastered the structure of professional journal papers,enhancing their overall ability to organize and structure their writing.

4.3Writing habits:Students developed the habit of taking personal writing notes and revising drafts multiple times,and they became more willing to engage in discussions with peers.

In summary,we have achieved some teaching effects and enhanced the specificity of instruction after integrating the explicit instruction and scaffolding model based on the process-oriented approach into English paper writing courses.However,students also proposed increasing class hours and the number of teaching staff,allowing for new writing cycles in the classroom and producing better results.In response to students'concerns about limited class hours and teaching staff,the author suggests that collaboration between medical English teachers and professional teachers could be the next step.This would involve having them supervise students'actual writing and providing feedback to medical English teachers,to enhance students'paper writing abilities.

References:

[1]Shiwu Wen.SCI Medical Paper Writing and Publishing[M].Beijing:People's Medical Publishing House,2012.

[2]Rosenshine,B.Explicit teaching and teacher training[J].Journal of Teacher Education,2017(38).

[3]Fletcher,J.,Lyon,G.R.,Fuchs,L.,&Barnes,M.A.Learning disabilities:from identification to intervention[M].New York:The Guilford Press.2019.

[4]YABUKI-SOH N.Teaching relative clauses in Japanese:exploring alternative types of instruction and the projection effect[J]. Studies in second language acquisition,2007(29).

[5]Vygotsky,L.S.Mind in society:The development of higher psychological processes[M].Cambridge,MA:Harvard University Press.1978.

[6]Verenikina,I.From theory to practice:What does the metaphor of scaffolding mean to educators today?[J]Critical Social Studies.2004 6(2).

[7]Qinfang Hu.Optimizing classroom teaching:methods and practices[M].Beijing:China Renmin University Press,2005.

[8]Jigang Cai.Writing SCI Journal Research Article for Publication[M].Shanghai.Fudan University Press,2020.

[9]Qinxiang Sun.Writing Medical Papers in English and Communications at International Conferences[M].Shanghai.Fudan University Press,2021.