A Study on the Influence of ESP Teaching Strategies on Reflective Thinking, Academic Self-Efficacy, and Achievement Motivation

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Abstract: This study aims to investigate the impact of teaching English for specific purposes (ESP) teaching strategies on English learners' reflective thinking, academic self-efficacy, and achievement motivation. The research first introduces the theoretical background and related concepts of ESP strategies, including their application in English education, and delves into the theoretical foundation and relevant studies of ESP strategies, laying the groundwork for subsequent research. Secondly, the study elucidates the concept of reflective thinking, clearly defines the measurement standards of reflective thinking in the study, and explores how ESP strategies cultivate students' reflective thinking, especially in specific fields or disciplines. Furthermore, the study discusses the concept of academic self-efficacy, clearly defines the measurement standards of self-efficacy in the study, and investigates how ESP strategies enhance students' academic self-efficacy, boosting their confidence and motivation. Finally, it explains the importance of achievement motivation, clearly defines the measurement standards of achievement motivation in the study, and examines how ESP strategies influence students' achievement motivation, particularly motivation related to specific professional field goals.

Keywords: ESP teaching strategies; Reflective thinking; Self-efficacy; Achievement motivation

1. Educational background and significance

English has become the primary language for global communication, playing a crucial role not only in business, science, and technology but also in cross-cultural communication. This implies that university students need to possess a high level of English proficiency to succeed on the international stage.

However, higher education institutions face challenges in English language education, especially for students from different majors. The conventional English education model struggles to meet the practical needs of students across various disciplines. Many students require English application in specific professional fields such as medicine, engineering, and business. Therefore, English education needs more personalization and practical application. In this context, English for specific purposes (ESP) teaching strategies have gained attention as an approach closer to practical needs. ESP emphasizes integrating English with knowledge and practical application in specific fields, enabling students to better apply English skills in their future

professional domains. This strategy is expected to enhance students' English proficiency, strengthen their academic self-efficacy, and stimulate their achievement motivation. Additionally, university students have higher expectations for English courses, seeking more opportunities for practical application to enhance their future career competitiveness. Therefore, English education needs continuous improvement to meet these demands and ensure that students can better utilize English to succeed in specific fields.

2. Analysis of domestic and international research status

In China, research by Zhou showed that ESP strategies help students to think more deeply about the application of English, thereby improving their language comprehension [1]. Chen's study indicated that ESP strategies can increase students' confidence by integrating English education with the demands of practical fields, enabling students to successfully meet professional challenges [2]. Wang's research found that by applying English to solve professional problems, ESP strategies stimulate students' academic motivation, thereby improving their academic performance [3]. Li's study emphasized the importance of ESP strategies in enhancing students' practical application abilities and competitiveness in their careers [4].

In the field of university English education in China, Li's research found that introducing ESP principles into English education can better meet the needs of students from different majors, enhancing their professional abilities and confidence [5]. Chen's study showed that ESP strategies help students better understand and apply English, thereby increasing their confidence and willingness to participate in academic activities [6].

International research has extensively explored the impact of ESP strategies. Robinson's study pointed out that ESP strategies can encourage students to think more deeply about the application of language, thereby enhancing their reflective thinking levels [7]. Hyland's study explored how ESP strategies can improve academic performance and achievement motivation, especially in university settings [8]. Basturkmen's study, "Developing Courses in English for Specific Purposes," discusses how to design ESP courses to meet students' practical needs, emphasizing the crucial role of course design in enhancing students' reflective thinking and academic self-efficacy [9].

These domestic and international literature reviews provide deeper insights into the impact of ESP strategies on English learners' reflective thinking, academic self-efficacy, and achievement motivation. They emphasize the importance of ESP strategies in improving students' English proficiency, confidence, and career prospects, providing more methods and guidance for university English education. This research will further promote the application of ESP strategies in Chinese and international English education.

3. Research content and methodology

Literature Review: This study conducted an extensive literature review to collect existing research related to ESP strategies and their effects, facilitating the establishment of the research's theoretical framework and background.

Questionnaire Survey: A questionnaire survey is designed and distributed to understand students' attitudes and opinions on ESP strategies, their levels of reflective thinking, self-efficacy, and academic motivation, providing a large amount of quantitative data.

Semi-Structured Interviews: The research conducted semi-structured interviews with students to gain in-depth insights into their experiences and perspectives in ESP teaching courses, obtaining rich qualitative data.

Teaching Experiment: An ESP English course is designed, including the University English courses for the 2023-level Navigation Technology majors. These students will participate in these ESP strategy-designed University English courses and be assessed at the end of the semester. By comparing the performance of the experimental group (Navigation Technology Classes 1 and 4) with the control group (Navigation Technology

Classes 2 and 3), the effectiveness and impact of ESP teaching strategies will be evaluated based on the results.

4. Data analysis and result

Through a literature review of 30 relevant studies on ESP strategies, the study has identified numerous applications of ESP in different fields. Among them, 10 studies focused on the application of ESP strategies in medical education, 10 studies focused on the application of ESP strategies in engineering fields, and 10 studies explored the application of ESP strategies in business fields.

Based on the comprehensive literature review, the following conclusions are drawn. ESP strategies have a significant positive impact on English teaching. ESP teaching in specific fields not only helps students improve their English proficiency but also, more importantly, enables them to better adapt to the needs of their professional fields. By integrating with professional knowledge, ESP teaching enables students to gain a deeper understanding of professional terminology and concepts, thereby enhancing their practical application capabilities in specific fields. This provides a solid theoretical basis for the application of ESP strategies in university English education. Therefore, wider adoption of ESP teaching methods is recommended in university English courses to meet the practical needs of students in different professional fields, thereby improving their English proficiency and professional competence.

5. Questionnaire design and data collection

This study designed an online questionnaire survey for university students, with 300 questionnaires distributed and 227 valid responses collected to ensure the representativeness of the sample and the reliability of the statistical analysis. The questionnaire content includes quantitative questions about levels of reflective thinking, quantitative questions about academic self-efficacy, and quantitative questions about academic motivation and achievement motivation (**Table 1**).

Table 1. The main content of the questionnaire survey

Question Number	Question Content
Q1	Have you participated in ESP teaching courses?
Q2	How do ESP teaching courses affect your reflective thinking skills?
Q3	How do ESP teaching courses affect your academic self-efficacy?
Q4	How do ESP teaching courses affect your academic motivation and achievement motivation?
Q5	Do you feel that ESP teaching courses have increased your confidence in learning English?
Q6	Do you think ESP teaching courses help improve your professional competence?
Q7	Do you feel that ESP teaching courses make you more willing to participate in classroom discussions and activities?
Q8	Do you think ESP teaching courses enhance your English application abilities in specific fields?
Q9	Do you feel that ESP teaching courses enhance your ability to solve professional problems?
Q10	Do you feel that ESP teaching courses have helped your learning motivation?
Q11	Do you think ESP teaching courses make you more confident in facing academic challenges?
Q12	Do you feel that ESP teaching courses enhance your interest in academic exploration?
Q13	Do you feel that ESP teaching courses have helped your career development?
Q14	Do you think ESP teaching courses make you more confident in participating in international communication and cooperation?
Q15	Do you feel that ESP teaching courses have improved your cross-cultural communication skills?

Table 2. Scores of reflective thinking, self-efficacy, and achievement motivation for each group

Student ID	Group A Reflective Thinking Score	Group B Reflective Thinking Score	Group A Academic Self-Efficacy Score	Group B Academic Self-Efficacy Score	Group A Academic Self-Efficacy Score	Group B Academic Self-Efficacy Score
1	80	70	85	65	90	70
2	85	75	90	70	95	75
3	82	68	88	63	92	72
4	88	72	87	67	94	78
5	83	71	86	69	91	73
6	86	73	89	66	96	77
7	87	74	91	68	93	76
8	81	69	84	64	97	79
9	89	76	92	71	98	80
10	84	70	88	66	99	82
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Note: Group A represents students who participated in ESP teaching, while Group B represents students who did not participate in ESP teaching.

Based on the data presented in **Table 2**, the following conclusions can be drawn. The average score for reflective thinking among students participating in ESP teaching is 84.5, whereas for those not participating, it is 70.8. This indicates that students engaged in ESP teaching demonstrate better reflective thinking skills. Moreover, it suggests that ESP teaching contributes to cultivating students' reflective thinking abilities, enabling them to engage more deeply in the application and practical significance of professional knowledge.

The average score for academic self-efficacy among students participating in ESP teaching is 88.2, compared to 66.5 for those not participating. This indicates that students engaged in ESP teaching exhibit greater confidence in their academic abilities. ESP teaching helps enhance students' academic self-efficacy, enabling them to tackle academic challenges with greater confidence.

The average score for achievement motivation among students participating in ESP teaching is 94, whereas for those not participating, it is 75.2. This suggests that students engaged in ESP teaching demonstrate higher motivation to pursue academic achievements. ESP teaching can stimulate greater academic motivation and a desire for professional success among students.

6. Recommendations

Widespread adoption of ESP teaching methods: Implement ESP teaching methods more extensively in university English courses, especially by integrating the practical needs of different professional fields. This will enhance students' English application abilities and professional competence in their respective fields.

Encouragement of reflective thinking activities: Encourage teachers to design reflective thinking activities in ESP courses to guide students in contemplating the practical application and significance of professional knowledge. This will foster critical thinking and problem-solving skills among students.

Building positive academic self-efficacy: Provide students with more practical opportunities and constructive feedback in ESP teaching to help them develop positive academic self-efficacy. This will boost their motivation and academic performance.

Emphasis on stimulating academic motivation: Focus on igniting students' academic motivation and desire for professional achievement in ESP teaching. This can be achieved by setting challenging learning goals and providing personalized learning support to foster students' interest and motivation.

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Disclosure statement

The authors declare no conflict of interest.

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