Teaching Innovations, Volume 38, Issue 3, pp. 94–112
DOI: 10.5937/inovacije2503094K

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Original research paper

Paper received: Apr 8 2025
Paper accepted: Aug 30 2025
Article Published: Oct 8 2025

Self-directed Learning in the AI era: ChatGPT and English for Specific Purposes

Extended summary

The concept of Self-Directed Learning (SDL) is gaining momentum in the contemporary educational context marked by a rapid evolution of information technologies and digital tools. The research in the field of the Computer-Assisted Language Learning (CALL) indicate that students who develop strong SDL skills tend to achieve greater academic success, particularly in university settings. In this sense, integration of artificial intelligence (AI) in foreign language teaching provides new opportunities for research. Among the AI-driven tools reshaping language learning, ChatGPT has emerged as a game-changer, yet its role in learning English as a foreign language (EFL) and English for specific purposes (ESP) has only recently become the topic of serious research.

This research aimed to investigate students' Self-Directed Learning Readiness (SDLR) and their perceptions of ChatGPT as an EFL and ESP learning tool. Specifically, it sought to examine: (1) the influence of motivation on ChatGPT utilization in self-directed ESP learning, (2) the impact of effective learning strategies on usage frequency, satisfaction, and perception of the ChatGPT features, and (3) students' perceived benefits of integrating ChatGPT into ESP instruction. Using a quantitative research design, the study surveyed 79 university students through an adapted Self-Directed Readiness Scale (SDRS) and a set of original questions.

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Using a quantitative research methodology, 79 university students were surveyed in the research. An adapted Self-Directed Readiness Scale (SDRS) (Xuan et al., 2018) was used as the research instrument, as well as a set of additional questions related to the specific aspects of using ChatGPT in teaching ESP. The obtained results were analyzed by using descriptive and inferential statistics, whereby the correlations among motivation, learning strategies, and the patterns of the AI tools usage were investigated. The demographic profile of the sample sheds additional light on the context of the research: the majority were students of age 17-20 (59.5%), while 72.2% of participants were male, reflecting a typical structure of the students of technical and computer sciences. The self-assessment showed that over a half of the respondents (52.5%) has an advanced level of English language knowledge, which is relevant for understanding their patterns of using ChatGPT tools in ESP environment.

The results of the study indicate that students moderately develop readiness to apply SDL strategies in learning ESP ($M=3.42$, $SD=0.61$), while their use of the ChatGPT tool varies significantly depending on individual factors. A positive correlation was found between motivation and frequency of using the tool ($r=.36$, $p<.01$), as well as between motivation and satisfaction with its functions ($r=.41$, $p< .01$) and the perception of its effectiveness ($r=.39$, $p<.01$). Students with a higher level of motivation and more developed learning strategies showed a tendency to use ChatGPT more often, with greater satisfaction and a critical approach - while adapting the responses of the tool to their own needs, without uncritical adoption.

In contrast, gender ($F(1.77)=1.12$, $p=.29$), age ($F(2.76)=0.85$, $p=.43$) and self-assessed language competence ($F(2.76)=1.34$, $p=.27$) did not appear to be significant factors in shaping the usage patterns. In other words, the way in which ChatGPT is used in learning English depends primarily on motivation and learning strategies, rather than on gender, age or self-assessed knowledge – confirming that developed learning strategies remain a key prerequisite for the meaningful and critical use of AI tools.

The analysis of the specific usage patterns shows that the students perceive ChatGPT as valuable tool mostly in tasks that require structure and clarity, such as writing assistance ($M=4.02$) and explaining technical terms ($M=3.85$). On the other hand, the application of the tool in practising grammar ($M=2.71$) and conversation ($M=2.64$) was perceived as having certain limitations. These findings indicate that generative artificial intelligence currently supports the comprehension and production of the written content more effectively than the interactive and communicative aspects of language learning.

The opinion of the students about the use of the ChatGPT tool in ESP teaching and learning is an important result of the research. More than half of the respondents stated that they would like to use this tool in combination with traditional teaching of ESP, which confirms the thesis that it is best to use AI tools only as an additional resource, and not as a replacement for traditional forms of teaching which include a language teacher. This particularly points to the significant role of teachers in providing support to students in the critical use of this tool, as well as in developing students' ability to distinguish reliable information from that which requires further verification and refinement.

The research results indicate that the pedagogical focus in teaching ESP should not be limited to the technical introduction of AI tools, but should be directed primarily at develop-

ing learning strategies and strengthening student motivation, given that students who have developed strategies and high motivation demonstrate more thoughtful and effective use of the tools. It is especially important to develop a critical approach to AI tools, so that students use the answers provided by the tool only as a starting point. Such an approach allows ChatGPT to become a tool for autonomous and meaningful learning, and not to serve as a means of content reproduction.

The pedagogical implications of the research results point to the need for teachers to integrate AI tools more actively as teaching resources when developing curricula or planning lessons, along with clearly defined guidelines for their usage. Such an approach allows students to develop autonomy and self-confidence in learning, as well as strengthen motivation, whereby teachers can maintain the roles of facilitators or mentors. Future research should focus on the interactive dimension of the application of AI in language learning, with a special emphasis on the long-term effects on the development of communicative competencies.

Keywords: Computer-Assisted Language Learning, Artificial Intelligence, English for Specific Purposes, Self-Directed Learning Readiness, motivation

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