



<http://jees.ejournal.id>

JEES: Journal of English Education Studies

ISSN (Print): 2615-613X || ISSN (Online): 2615-6083



Promoting Learner Autonomy through University E-Learning Platforms in an English for Specific Purposes (ESP) Course

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ARTICLE INFO

Keywords:
learner autonomy, e-learning platforms, English for specific purposes

ABSTRACT

This study evaluates how a university online learning platform supports learner autonomy among first-year English Department students at Sultan Ageng Tirtayasa University taking an English for Specific Purposes course. Using a mixed-method design, the study combines pre-test and post-test data with students' reflections and questionnaire results. A total of 75 students (40 from Class C and 35 from Class D) participated in a 16-week online program that focused on vocabulary, reading comprehension, and scientific writing. The results show clear improvement in students' English abilities, supported by higher post-test scores. Qualitative data also show that students became more independent, especially in planning, goal setting, and managing their study time. Overall, the results suggest that a well-designed online platform can effectively support both language learning and learner autonomy for English majors in specific fields.



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INTRODUCTION

English for Specific Purposes (ESP) has become increasingly important in higher education because students in different academic fields must use English in ways that relate directly to their disciplines. For ESP students, this includes understanding specific vocabulary, specific reading articles, interpreting data, and developing specific materials. These skills go beyond specific English and require learning language that is closely connected to specific concepts and communication styles (Hyland, 2022; Basturkmen, 2018). As a result, English for Specific Purposes is now an essential subject for helping students succeed in both their studies and future careers.

In recent years, the rapid growth of digital technology has changed the way universities teach and support learning. Many institutions around the world, including those in Indonesia, now use Learning Management Systems (LMS) to deliver course materials and assessments. At Sultan Ageng Tirtayasa University, the official LMS is SPADA UNTIRTA. This platform allows students to access learning modules, videos, interactive exercises, and discussion forums at any time and from any

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location. Such flexibility is especially useful for modern students who often balance academic work with personal, family, or organizational responsibilities (Martin et al., 2020; Al-Fraihat et al., 2020).

Research has shown that digital tools, including mobile-assisted language learning (MALL), can improve students' motivation and language skills. Students benefit from features such as multimedia resources, self-paced learning, and immediate feedback (Chen & Kessler, 2020; Kukulska-Hulme, 2021). However, the success of online learning also depends heavily on students' ability to take control of their own learning. To perform well in online courses, learners must be able to plan their study schedule, stay motivated, set goals, monitor their progress, and complete tasks independently. These abilities, often called learner autonomy or self-regulated learning, are now considered essential skills in the digital era (Lai, 2017; Little, 2012).

Despite the wide use of online platforms, there is still a lack of research examining how effective these systems are for ESP courses, especially for non-English majors. Science students, for example, may struggle not only with the difficulty of scientific content but also with the specialized English needed to understand laboratory instructions, scientific texts, and academic discussions. Because of this dual challenge, it is important to understand whether online platforms can genuinely support both their language development and their learning independence (Flowerdew & Wang, 2017).

Previous studies have mainly focused on English for Economics, Business English, or general EFL courses, with limited attention given to English for Science in Indonesian universities. Furthermore, although many studies highlight the benefits of LMS platforms, fewer studies explore how such platforms help students develop learner autonomy, especially in a fully online environment (Moorhouse & Kohnke, 2023). This creates a clear research gap that needs to be addressed.

Therefore, this study investigates the use of SPADA UNTIRTA as an online platform to support English for Specific Purposes instruction for first-year science students. The research aims to determine how the platform helps improve students' English proficiency, particularly in vocabulary, reading comprehension, and scientific writing, and how it supports the development of learner autonomy. Understanding these impacts is important for designing effective ESP courses that respond to the needs of students in a digital learning environment.

The study focuses on two main objectives:

1. To examine how SPADA UNTIRTA enhances students' English for Specific Purposes (ESP) proficiency, specifically in vocabulary mastery, reading comprehension, and scientific writing.
2. To analyze the extent to which the online platform supports the development of learner autonomy across key self-regulated learning (SRL) dimensions, including motivation, learning methods, time management, physical environment, social environment, and performance.

RESEARCH METHODOLOGY

Research Design

This study used a convergent parallel mixed-methods design. In this design, quantitative and qualitative data were collected separately but analyzed together to provide a comprehensive understanding of the learning process. Mixed-methods designs are often used when researchers aim to explore not only measurable outcomes but also the experiences, interpretations, and behaviors that contribute to those outcomes (Creswell & Creswell, 2018; Johnson & Christensen, 2020). The quantitative component focused on students' English for Specific Purposes proficiency, while the qualitative component explored their autonomous learning behaviors. Using both forms of data enabled a richer interpretation of how students improved and how their learning processes developed during the intervention (Creswell & Plano Clark, 2018).

Participants and Setting

The participants were 75 first-year English Department students taking a compulsory English for Specific Purposes course in the 2024/2025 academic year. The students were from Class C (40 students) and Class D (35 students). Purposive sampling was used because the course was specifically targeted at English majors who needed experience and interest to facilitate learners for their English skills for specific purposes, such as English for Science, English for Business, English for Agriculture, English for Communication and so forth.

The learning intervention lasted 16 weeks and was delivered fully online through SPADA UNTIRTA, the university's official Learning Management System (LMS). The course included weekly learning modules containing short video lectures, scientific reading materials, interactive quizzes, and writing tasks based on real scientific problems or case studies.

Instruments

Three main instruments were used to collect data:

1. English for Specific Purposes (ESP) Proficiency Tests

The pre-test and post-test were designed to measure vocabulary mastery, reading comprehension, and scientific writing skills. Test construction followed established principles of language assessment, including construct validity, reliability, and alignment with learning objectives (Brown & Abeywickrama, 2019; Bachman & Palmer, 2010). The tests were reviewed by two ESP experts to ensure they reflected the linguistic needs of ESP learners.

2. Learner Autonomy Questionnaire

This questionnaire was adapted from Pintrich's Self-Regulated Learning (SRL) model, which measures planning, goal setting, time management, self-monitoring, and learning strategies. SRL questionnaires have been widely used in classroom and online learning environments to measure autonomy and metacognitive behaviors (Zimmerman, 2002; Barnard et al., 2009; Lai, 2017).

3. Reflective Journals and Open-Ended Surveys

Students wrote weekly reflective journals and responded to open-ended survey questions about their motivation, challenges, learning strategies, and overall experience. Reflective journaling is a recognized qualitative tool for exploring learner beliefs, behaviors, and development in language learning (Merriam & Tisdell, 2016; Richards & Lockhart, 1996). These reflections helped illuminate patterns in learner autonomy that numerical scores alone could not capture.

Procedure and Data Analysis

The intervention lasted one full semester (16 weeks). Students completed weekly modules, participated in online discussions, and submitted tasks through SPADA UNTIRTA. Feedback was provided both automatically by the LMS and manually by the lecturer, consistent with principles of formative online assessment (Hattie & Timperley, 2007; Nicol & Macfarlane-Dick, 2006).

1. Quantitative Analysis

Pre-test and post-test scores were analyzed using paired-sample t-tests to determine significant improvement in English for Specific Purposes proficiency and autonomy. This statistical method is commonly used for measuring changes in performance within the same group before and after an intervention (Field, 2018; Pallant, 2020).

2. Qualitative Analysis

Students' reflective journals and survey responses were analyzed using thematic analysis. This method is appropriate for identifying recurring themes related to motivation, learning strategies, and challenges (Braun & Clarke, 2006). The themes were then integrated with quantitative findings

to provide a fuller explanation of how online learning supported both language development and learner autonomy.

RESULT AND DISCUSSION

The results of this study show that the use of SPADA UNTIRTA significantly improved students' English for Specific Purposes proficiency. The comparison between the pre-test and post-test scores across vocabulary, reading comprehension, and scientific writing demonstrates clear progress. The distribution of scores is shown in Table 1.

Table 1. English for Specific Purposes (ESP) Score Distribution Before and After Using SPADA UNTIRTA

Score Range	Pre-Test	Post-Test
<60	12	0
60–69	18	6
70–79	20	22
80–89	15	27
90–100	10	20
Total	75	75

Before the intervention, most students scored below 70, showing that their English for Specific Purposes (ESP) skills were still limited. After completing the 16-week online course, no students remained in the lowest category (<60), and many moved into the higher score ranges. The highest growth was seen in the 80–89 and 90–100 categories, with 47 students achieving scores above 80.

These results indicate that SPADA UNTIRTA successfully supported students in improving their English for Specific Purposes (ESP) vocabulary, reading comprehension, and writing skills. This improvement is consistent with previous research showing that Learning Management Systems (LMS) can enhance language acquisition through flexible access, ongoing feedback, and structured learning tasks (Broadbent, 2017; Dudeney & Hockly, 2012; Faridi et al., 2021).

The positive learning outcomes are likely influenced by the platform's features, including weekly modules, interactive quizzes, and real scientific case-based writing tasks. These elements encourage repeated exposure, self-paced learning, and active engagement—key factors in successful ESP instruction (Arno-Macia, 2012; Hutchinson & Waters, 1987).

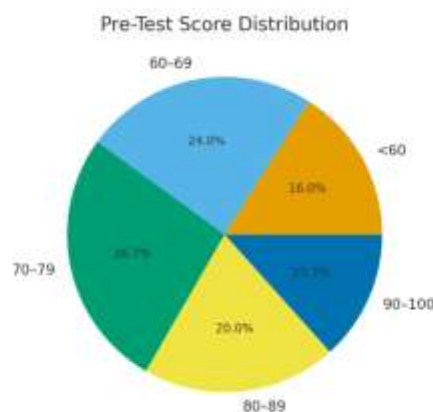


Figure 1. ESP Score Distribution Before the Online Learning Intervention

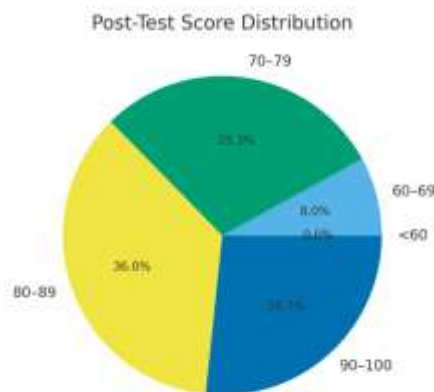


Figure 2. ESP Score Distribution After the Online Learning Intervention

The figures illustrate a clear upward shift in students' English for Specific Purposes (ESP) proficiency following the 16-week online course delivered through SPADA UNTIRTA. The visual comparison between the pre-test and post-test data shows that no students remained in the lowest achievement band (<60) after the intervention. Additionally, a substantial number of students moved into the higher proficiency ranges, particularly the 80–89 and 90–100 score categories. This upward trend demonstrates that the online instructional design supported by structured weekly modules, interactive quizzes, and scientific case-based writing tasks successfully enhanced students' vocabulary mastery, reading comprehension, and scientific writing abilities. The figure, therefore, provides strong visual evidence of the learning gains achieved throughout the program, reinforcing the quantitative results presented in Table 1.

Discussion

The results of this study demonstrate that SPADA UNTIRTA effectively supported both English for Specific Purposes (ESP) proficiency and learner autonomy among first-year English Department students. The significant increase in post-test scores and improvements across all SRL dimensions indicate that the online platform provided a learning environment that strengthened both linguistic competence and independent learning behaviours. These results align with previous research showing that online learning environments can foster deeper engagement, better performance, and stronger self-regulation when supported with appropriate tools and structure (Broadbent, 2017; Pintrich, 2004).

One of the most meaningful results is the substantial improvement in time management and overall performance. Students in the online class reported that features such as automated reminders, structured deadlines, and progress-tracking tools made it easier for them to plan their weekly workload and stay on schedule. This finding is consistent with Zimmerman's (2002) view that self-regulated learners benefit from systems that provide continual cues for planning and monitoring. The ability to track progress throughout the semester therefore, played a central role in helping students take ownership of their learning.

The platform's flexibility also contributed significantly to increased autonomy. Students noted that the ability to review video lectures and learning materials at any time helped them engage with content at their own pace. This self-paced learning model aligns with findings by Hrastinski (2019), who emphasized that online environments empower students to adapt learning to personal preferences, learning speeds, and individual schedules. For English for Specific Purposes, this was particularly beneficial because students often needed additional time to understand specific vocabulary and academic texts.

However, flexibility alone does not guarantee learning success. As several students mentioned, studying from home introduced distractions and limited peer interaction. The lower improvements in the social and physical SRL dimensions reflect these challenges. These echoes earlier studies reporting that online learners sometimes struggle with isolation, reduced communication, and difficulty sustaining motivation without direct interaction (Jusoff & Khodabandelou, 2009; Yamagata-Lynch, 2014). Therefore, while SPADA offered substantial freedom, a complete reliance on asynchronous learning may not fully meet the needs of students who require social engagement or lecturer presence.

Qualitative feedback also revealed important limitations that affected learner autonomy. Some students experienced difficulties due to unstable internet connections or slow loading times. Others reported motivation loss during weeks without live sessions. These findings suggest that individual variables—such as technological access, self-discipline, and personal preferences—strongly influence online learning success. This supports the view that online and hybrid models may work differently for different learners depending on their learning styles, SRL skills, and home learning environment (Barnard et al., 2009; Means et al., 2013).

Despite these challenges, students highlighted one feature as especially impactful: continuous feedback. SPADA UNTIRTA's dual feedback mechanism—immediate automated feedback on quizzes and personalized feedback on writing assignments—helped students quickly identify strengths and weaknesses. Immediate feedback reduced anxiety and kept students motivated, while personalized feedback provided specific guidance for improving scientific writing and reading comprehension. This supports the argument that feedback is one of the most influential factors in online learning retention, engagement, and improvement (Hattie & Timperley, 2007).

The psychological benefits of timely feedback were also evident. Students felt more confident when they received quick confirmation that they were improving. Constructive feedback helped them reframe errors as learning opportunities, reinforcing a growth mindset. This aligns with Zimmerman's (2002) SRL framework, which emphasizes feedback as a key driver of self-monitoring and reflection.

When compared to traditional face-to-face (F2F) learning, SPADA UNTIRTA also provided broader resource accessibility. Students had constant access to lecture videos, scientific readings, and interactive materials, ensuring inclusivity for learners with varied schedules or personal responsibilities. This resource scalability and accessibility directly support earlier findings that online learning systems expand opportunities for learners from different socioeconomic or geographic backgrounds (Means et al., 2013).

Taken together, these findings show that SPADA UNTIRTA is a highly effective platform for English for Science instruction, particularly in settings that require both flexibility and structured guidance. The platform not only enhanced language proficiency but also supported the development of metacognitive and self-regulatory skills essential for long-term academic success in scientific fields. As Indonesian universities continue to move toward Education 4.0, the integration of LMS-based ESP instruction can play a transformative role in creating flexible, accessible, and autonomous learning environments for English Department students.

CONCLUSION

The findings of this study demonstrate that SPADA UNTIRTA effectively supported English for Specific Purposes (ESP) instruction for first-year science students. The online modules, scientific reading materials, and writing tasks significantly improved students' vocabulary, reading comprehension, and scientific writing skills. Beyond language proficiency, the platform helped students develop essential self-regulated learning abilities, including planning, time management, and self-monitoring. These results indicate that a well-structured online environment can strengthen both academic performance and independent learning skills among English majors.

The practical implications of this study highlight the importance of thoughtful LMS design in English for Specific Purposes (ESP) courses. Instructors are encouraged to incorporate clear learning pathways, interactive materials, and frequent feedback to support student engagement. Higher education institutions should continue improving technical infrastructure and providing LMS training to ensure equitable access. Meanwhile, students can benefit from using online features—such as progress tracking and recorded materials—to build stronger learning habits and take greater responsibility for managing their coursework.

Despite its positive outcomes, the study also presents several limitations. Several students experienced unstable internet connections and limited opportunities for real-time interaction, which sometimes reduced motivation and social engagement. The SRL results were based on self-reported data, which may not fully reflect actual learning behaviours. Additionally, the study was conducted at a single institution, limiting generalizability to different educational contexts. Nevertheless, the findings offer valuable insights into how online learning platforms can support language development and autonomy, emphasizing the need for continuous enhancement of instructional design, technical support, and optional synchronous activities to sustain effective and inclusive online learning environments.

REFERENCES

- Al-Fraihat, D., Joy, M., & Sinclair, J. (2020). Evaluating E-learning systems success: An empirical study. *Computers in Human Behavior*, 102, 67–86. <https://doi.org/10.1016/j.chb.2019.08.004>
- Arno-Macia, E. (2012). The role of technology in teaching languages for specific purposes courses. *The Modern Language Journal*, 96(S1), 89–104. <https://doi.org/10.1111/j.1540-4781.2012.01299.x>
- Bachman, L. F., & Palmer, A. S. (2010). *Language assessment in practice*. Oxford University Press.
- Barnard, L., Lan, W. Y., To, Y. M., Paton, V. O., & Lai, S. L. (2009). Measuring self-regulation in online and blended learning environments. *The Internet and Higher Education*, 12(1), 1–6. <https://doi.org/10.1016/j.iheduc.2008.10.005>
- Basturkmen, H. (2018). *Developments in English for Specific Purposes: A multi-disciplinary approach*. Palgrave Macmillan.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101.
- Broadbent, J. (2017). Comparing online and blended learner's self-regulated learning strategies and academic performance. *The Internet and Higher Education*, 33, 24–32. <https://doi.org/10.1016/j.iheduc.2017.01.004>
- Brown, H. D., & Abeywickrama, P. (2019). *Language assessment: Principles and classroom practices* (3rd ed.). Pearson.

- Chen, X., & Kessler, G. (2020). Action research approaches to MALL. *Language Learning & Technology*, 24(2), 1–17.
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Sage
- Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed.). Sage.
- Dudeny, G., & Hockly, N. (2012). ICT in ELT: How did we get here and where are we going? *ELT Journal*, 66(4), 533-542. doi: 10.1093/elt/ccs050
- Faridi, A., Saleh, M., & Fitriati, S. W. (2021). Online task-based language teaching using Google classroom in writing class: how does it affect EFL learners' writing performance and attitude?. *Journal of Asia TEFL*, 18(1), 262-270.
- Field, A. (2018). *Discovering statistics using IBM SPSS Statistics* (5th ed.). Sage.
- Flowerdew, J., & Wang, S. H. (2017). Identity in English for Academic Purposes: Implications for ESP teachers. *English for Specific Purposes*, 46, 41–53. <https://doi.org/10.1016/j.esp.2016.11.002>
- Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of Educational Research*, 77(1), 81–112. <https://doi.org/10.3102/003465430298487>
- Hrastinski, S. (2019). What do we mean by blended learning? *TechTrends*, 63(5): 564-569. <https://doi.org/10.1007/s11528-019-00375-5>
- Hutchinson, T., & Waters, A. (1987). *English for specific purposes: A learning-centred approach*. Cambridge University Press.
- Hyland, K. (2022). *Second Language Writing* (3rd ed.). Cambridge University Press.
- Johnson, B., & Christensen, L. (2020). *Educational research: Quantitative, qualitative, and mixed approaches* (7th ed.). Sage.
- Jusoff, K., & Khodabandelou, R. (2009). Preliminary study on the role of social presence in blended learning environment in higher education. *International Education Studies*, 2(4), 79–83. <https://doi.org/https://eric.ed.gov/?id=EJ1065767>
- Kukulska-Hulme, A. (2021). Mobile-assisted language learning and the development of learner autonomy. *ReCALL*, 33(3), 278–296. <https://doi.org/10.1017/S0958344021000019>
- Lai, C. (2017). Autonomous language learning with technology: Beyond the classroom. *ELT Journal*, 71(1), 84–86. <https://doi.org/10.1093/elt/ccw072>
- Little, D. (2012). *Learner Autonomy: A guide to developing learner responsibility*. Cambridge University Press.
- Martin, F., Sun, T., & Westine, C. (2020). A systematic review of research on online teaching and learning (2010–2018). *Computers & Education*, 159, 104009. <https://doi.org/10.1016/j.compedu.2020.104009>
- Means, B., Toyama, Y., Murphy, R., Bakia, M., & Jones, K. (2013). *The effectiveness of online and blended learning: A meta-analysis of the empirical literature*. U.S. Department of Education.
- Merriam, S. B., & Tisdell, E. J. (2016). *Qualitative research: A guide to design and implementation* (4th ed.). Jossey-Bass.
- Moorhouse, B. L., & Kohnke, L. (2023). A systematic review of online ESL/EFL teaching during the COVID-19 pandemic. *System*, 113, 102992. <https://doi.org/10.1016/j.system.2023.102992>
- Pintrich, P. R. (2004). A conceptual framework for assessing motivation and self-regulated learning in college students. *Educational Psychology Review*, 16(4), 385–407. <https://doi.org/10.1007/s10648-004-0006-x>
- Richards, J. C., & Lockhart, C. (1996). *Reflective teaching in second language classrooms*. Cambridge University Press.
- Yamagata-Lynch, L. C. (2014). Blending online asynchronous and synchronous learning. *The International Review of Research in Open and Distributed Learning*, 15(2), 189–212. <https://doi.org/10.19173/irrodl.v15i2.1778>
- Zimmerman, B. J. (2002). Becoming a self-regulated learner: An overview. *Theory Into Practice*, 41(2), 64–70. https://doi.org/10.1207/s15430421tip4102_2