CHAPTER V
CONCLUSION

5.1. Conclusion

This study investigated the extent to which students' dependence on AI tools affects their independent learning abilities in English language learning, as well as students' perceptions of the benefits and challenges associated with AI use. By employing a mixed-methods approach, this research provides a comprehensive understanding of how AI integration interacts with learner autonomy in an EFL context.

The quantitative findings reveal that students' AI dependency is at a moderate level (M = 47.93, SD = 9.09), indicating that AI tools are used regularly but not excessively in English learning activities. At the same time, students demonstrated relatively high independent learning ability (M = 56.17, SD = 9.15), reflecting strong perceptions of self-regulation, learning initiative, and responsibility. The overall distribution of both variables suggests that students are able to maintain balanced AI use while sustaining solid independent learning capacities. These results indicate that moderate AI dependency does not inherently undermine learner autonomy.

The qualitative findings further explain and enrich these quantitative patterns. Students generally perceive AI tools as beneficial learning resources that enhance efficiency, improve writing accuracy, expand access to learning materials, and provide immediate feedback that supports self-directed learning. Many participants described AI as motivating, enjoyable, and accessible, highlighting its role in fostering engagement, confidence, and perceived competence. These perceptions are consistent with theoretical perspectives such as constructivism, Self-Determination Theory (SDT), and Self-Regulated Learning (SRL), which emphasize the role of learning tools and strategies in supporting autonomous learning processes.

Nevertheless, the findings also reveal critical concerns regarding the potential risks of overreliance on AI. Some students acknowledged that frequent and

unreflective use of AI may reduce creativity, critical thinking, and personal initiative, particularly when AI is treated as a shortcut rather than as a learning aid. This indicates that while AI can function as an effective cognitive scaffold, excessive dependence may undermine deeper cognitive engagement and essential aspects of learner autonomy.

Overall, this study concludes that AI is most effective when positioned as a complementary learning tool rather than a substitute for students' own reasoning and problem-solving processes. Responsible AI use—supported by digital literacy, metacognitive awareness, and appropriate teacher guidance—can strengthen learner autonomy, motivation, and learning outcomes. Conversely, unregulated dependence on AI may hinder the long-term development of independent learning skills. Thus, the pedagogical value of AI lies not in its mere availability, but in how thoughtfully and reflectively it is integrated into the learning process.

5.2. Implications of The Study

5.2.1. Implications for Educational Practitioners

The findings suggest that the integration of AI in English language learning should be approached strategically rather than restrictively. In line with the quantitative results of RQ1, AI dependency should be understood as a continuum rather than a binary condition, in which moderate AI use can function as cognitive scaffolding that supports autonomous learning rather than undermines it. Educators are encouraged to guide learners in using AI as a supportive tool for learning enhancement, such as for feedback, language refinement, and idea development, instead of allowing it to function as a substitute for learners' cognitive engagement. When instructional guidance is clear, AI use can contribute positively to learner autonomy and motivation.

In practice, instructional activities should be designed to maintain students' responsibility for learning outcomes. Tasks that require reflection, justification of AI-assisted outputs, or revision based on personal judgment can help prevent superficial learning and overdependence. Rather than limiting access to AI, pedagogical interventions should prioritize AI literacy, metacognitive awareness,

and strategy training so that students learn how and when to use AI purposefully. Through consistent implementation of such practices, AI can strengthen independent learning behaviours rather than weaken them.

5.2.2. Implications for Learners

For learners, the findings highlight the importance of developing awareness regarding the appropriate and responsible use of AI tools. Given that moderate AI dependency was not associated with diminished independent learning in this study, students are encouraged to view AI as a supportive cognitive aid rather than an indicator of reduced autonomy. While AI offers efficiency and accessibility, uncritical reliance may reduce initiative, self-discipline, and deeper engagement with learning tasks. Students are therefore encouraged to position AI as a learning aid rather than a primary source of answers.

By using AI selectively and reflectively, learners can enhance their learning efficiency while maintaining control over their learning process. Developing habits such as reviewing AI output critically, cross-checking information, and integrating personal understanding can support sustained autonomy and self-regulated learning in the long term. Such practices help ensure that AI use remains within a productive threshold that supports, rather than replaces, learners' self-regulatory capacities.

5.2.3. Implications for Institutions and Policy Makers

At the institutional level, the findings imply the need for clear guidelines and supportive policies regarding AI use in academic settings. Institutional policies should acknowledge that AI dependency becomes pedagogically problematic only when it exceeds a level that undermines students' capacity to self-regulate, rather than at moderate levels of use. Rather than focusing solely on restriction, institutions should promote responsible and ethical AI integration by providing orientation, training, and academic standards related to AI-assisted learning.

Policies that emphasize AI literacy and reflective use can help prevent misuse while maximizing pedagogical benefits. When institutional support aligns with instructional practices, AI has the potential to enhance learning quality, promote

learner independence, and support sustainable innovation in English language education.

5.2.4. Implications for AI Developers

The findings of this study suggest that AI developers should consider learner autonomy and self-regulated learning as core design principles in educational AI tools. Consistent with the view of AI as a cognitive scaffold, AI systems should be designed to support regulation, reflection, and strategic decision-making rather than passive solution consumption. Since moderate AI use can support independent learning when learners maintain regulatory control, AI systems should be designed to encourage active engagement rather than passive consumption. Features that prompt users to reflect, revise, or justify their choices may help prevent overreliance and promote metacognitive awareness.

In addition, AI tools for language learning should incorporate transparency and scaffolding mechanisms. Providing explanations for suggestions, offering alternative feedback options, and allowing users to compare AI-generated outputs with their own drafts can strengthen learners' sense of ownership over the learning process. Such design choices align with the role of AI as a cognitive scaffold rather than a replacement for human thinking.

Finally, developers are encouraged to integrate ethical and educational safeguards into AI systems. Adaptive prompts, reflective checkpoints, and usage-awareness features can help prevent AI dependency from exceeding a productive threshold. By embedding pedagogically informed constraints, AI developers can contribute to sustainable and responsible AI use in education, ensuring that technological innovation supports, rather than undermines, learner autonomy and long-term learning development.

5.3. Limitations of The Study

Despite its contributions, this study has several limitations. The quantitative component involved a relatively small sample size, which limits the generalizability of the findings to broader populations. In addition, the study relied heavily on self-reported data, which may be influenced by social desirability bias or students'

subjective interpretations of their learning behaviours. Furthermore, this research focused primarily on students' perceptions rather than direct measurements of learning performance. As a result, the findings reflect perceived autonomy and dependency rather than objectively observed learning outcomes.

5.4. Recommendations for Future Research

Future research should involve larger and more diverse samples to enhance the generalizability of findings across different educational contexts. Longitudinal studies are also recommended to examine the sustained effects of AI use on learner autonomy over time.

Additionally, future studies may incorporate multiple data sources, such as performance-based assessments, learning analytics, or teacher perspectives, to triangulate findings and provide a more comprehensive understanding of AI's impact on learning. Research exploring balanced pedagogical models such as AI-assisted blended learning, metacognitive strategy training, or structured AI-guided tasks would further contribute to the development of effective and responsible AI integration in EFL contexts.