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Management Model of Green Office Education Learning to Enhance Digital Competence of Office Administration Students

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ABSTRACT
The rapid development of digital technology and growing environmental awareness have encouraged the transformation of learning systems in office administration education. This study aims to describe the management model of *Green Office Education* implemented among Office Administration students at Politeknik Pajajaran, emphasizing the enhancement of digital competence and environmental responsibility in academic practices. A qualitative descriptive approach was employed, utilizing observation, in-depth interviews, and documentation of digital-based learning activities. The findings reveal that applying the *Green Office Education* concept through platforms such as Google Workspace promotes a paperless, collaborative, and efficient learning environment. Students demonstrate the ability to integrate digital technology skills with environmental sustainability values in document management, communication, and academic presentations. This research concludes that the *Green Office Education* model not only strengthens students' digital competencies but also cultivates a green work culture that aligns with the demands of the modern digital workplace.

Key words: Green Office Education; learning management; digital competence; office administration; paperless learning.

INTRODUCTION

The rapid advancement of digital technology and the growing awareness of environmental sustainability have significantly transformed the learning paradigm in office administration education. Vocational education, which focuses on professional and practical skills, is now required not only to produce technically competent graduates but also those who are environmentally conscious and digitally literate. The concept of Green Office Education emerges as a response to this demand, emphasizing resource efficiency, eco-friendly practices, and paperless systems in academic and administrative learning activities(Fauziah & Nugroho, 2024).

In the context of office administration programs, digital transformation has encouraged the adoption of various online learning platforms such as Google Workspace, Microsoft 365, which enable students to collaborate, share documents, and manage archives digitally. Previous studies have shown that the integration of cloud computing tools into teaching practices enhances administrative efficiency and learning effectiveness (Rahmawati et al., 2022). Moreover, embedding Green Office principles into the curriculum fosters environmentally responsible behaviors among students and educators (Devica, 2020)

Nevertheless, most prior research has examined either digital technology adoption or environmental education separately. There remains a significant gap in exploring a management model that simultaneously integrates Green Office Education principles with the development of students' digital competence, particularly within Indonesia's vocational higher education context. This gap highlights the need for a sustainable and technology-driven learning management framework that aligns with the modern digital workplace.

Therefore, this study aims to describe the management model of Green Office Education learning implemented among Office Administration students at Politeknik Pajajaran. The main focus is to explore how the application of Green Office Education principles enhances students' digital competencies while cultivating environmental awareness and sustainable work practices in the era of digital education.

METHOD

This study applied a qualitative descriptive approach to explore the implementation of the Green Office Education learning model in enhancing digital competence among Office Administration students at Politeknik Pajajaran. Conducted as an exploratory case study, the research involved 20 students, 3 lecturers, and 1 head of department selected purposively. Data were collected through participant observation, in-depth interviews, and document analysis focusing on digital practices using Google Workspace and paperless office projects. Data were analyzed using theinteractive model—comprising data reduction, display, and conclusion drawing (Sugiyono, 2016).

RESULTS AND DISCUSSION

The implementation of the Green Office Education learning model at Politeknik Pajajaran has yielded meaningful impacts on students' digital competence, environmental awareness, and academic management culture. The results were obtained from observations of classroom activities, interviews with lecturers and students, and analysis of digital documentation throughout one semester. This section presents the key findings structured around four main themes: digital competence enhancement, development of sustainable work habits, institutional and managerial adaptation, and the integration of digital transformation with environmental sustainability.

As a result of both theoretical analysis and empirical findings, this study produced a conceptual framework of the Green Office Education Learning Model, which illustrates the interconnection between educational digitalization, sustainability issues, and the enhancement of digital competence among Office Administration students. The framework highlights how digital and eco-friendly learning approaches can be integrated within vocational education curricula to develop students who are not only technologically proficient but also environmentally responsible in their administrative practices. The following figure presents the logical flow and interrelationships among the main components of the proposed learning model, starting from digitalization and sustainability in education, leading toward the improvement of digital literacy, implementation of paperless office practices, and the development of green work habits.

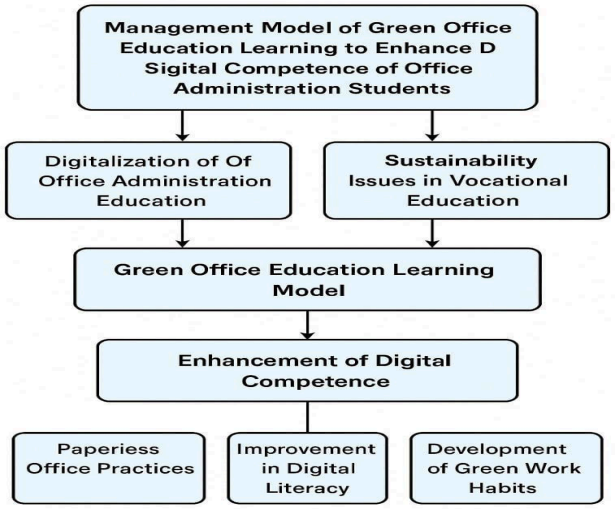

Figure 1. Conceptual Framework of the Green Office Education Learning Model to Enhance the Digital Competence of Office Administration Students

1. Enhancement of Digital Competence

One of the most significant outcomes of implementing Green Office Education was the improvement of students' digital literacy and administrative skills. Prior to the program, most students relied heavily on printed materials and manual reporting. After the introduction of digital platforms such as Google Workspace (Drive, Docs, Sheets, Meet), students demonstrated increased ability in managing, sharing, and securing digital files. Class projects shifted from traditional written reports to digital portfolios, which contained documentation, reports, and multimedia presentations collaboratively developed through shared folders.

This change enhanced productivity and accountability because every activity could be tracked digitally. Lecturers provided comments directly in Google Docs, while students engaged in collaborative editing and real-time revisions. Such practices reflect the growing importance of digital collaborative competence in modern office work(Habibi et al., 2024). The results also confirmed that adopting a paperless system reduces redundancy, improves time efficiency, and supports eco-friendly academic workflows(Rahmawati et al., 2022).

Moreover, the research revealed an increase in students' confidence in using online tools for document management and presentation. They learned to apply proper file naming conventions, data security protocols, and cloud-based archiving—key components of professional digital literacy in administrative contexts. According to (Suriyani et al., 2025) integrating digital skills training within environmentally conscious frameworks allows students to develop not only technical proficiency but also a sustainable mindset for future employment.

2. Development of Green Work Habits

The Green Office Education model also contributed to shaping environmentally responsible behavior among students and faculty. Through the adoption of digital communication tools, the campus significantly reduced paper and ink consumption. The number of printed assignments decreased by more than 80%, as most

submissions and feedback were delivered digitally. In interviews, students expressed a sense of pride in contributing to the campus's green office movement, realizing that "being digital" also means being sustainable.

Faculty members redesigned classroom activities to promote eco-digital habits. For instance, lecturers used e-signatures for document validation, created digital rubrics for assessments, and conducted virtual meetings for consultation. These changes saved resources while fostering adaptability to remote work environments—skills highly relevant to post-pandemic professional realities (Implementation & Administrative, 2023).

and digital reminders were placed across campus to reinforce awareness. These behavioral changes indicate that environmental education can be most eff.ective when embedded within daily academic operations, rather than treated as a separate subject (Zuhriyah, 2023)

3. Managerial Adaptation and Institutional Support

Institutional support was critical for the successful implementation of Green Office Education. The management of Politeknik Pajajaran adopted a structured approach to ensure the sustainability of this program through four management stages: planning, organizing, implementing, and evaluating.

During the planning stage, the institution identified digital infrastructure needs, such as cloud storage capacity, user access rights, and training requirements. The organizing stage involved assigning responsibilities among lecturers, IT staff, and administrative officers to monitor the use of digital platforms. In the implementation stage, lecturers integrated green office principles into course syllabi—requiring students to manage digital files efficiently, use online collaboration tools, and apply digital signatures for documentation. Finally, during the evaluation stage, feedback was collected from students and faculty to improve the model(Wahjusaputri & Nastiti, 2022).

The study found that such managerial consistency ensured that Green Office Education was not merely a temporary initiative but a sustained institutional culture. The campus also provided workshops on digital sustainability, emphasizing the dual importance of efficiency and environmental responsibility. This aligns with the Green Office Management Framework proposed(Anwar & Utomo, 2017), which emphasizes leadership commitment, stakeholder collaboration, and policy integration as key success factors for sustainable administration.

4. Integration Between Digitalization and Sustainability

A key novelty of this study lies in the seamless integration between digital transformation and environmental sustainability within vocational higher education. Previous research often treated e-learning and green education as separate domains (Agustin, 2018). However, this study demonstrated how both concepts can coexist in a complementary system where digitalization becomes the vehicle for achieving sustainability goals.

Students were not only trained to be proficient in using office software but also encouraged to reflect on the ecological implications of their digital practices. For example, discussions in class addressed the issue of data storage efficiency and the carbon footprint of server usage, prompting students to adopt minimalist data management practices such as compressing files and deleting unused storage. This perspective represents a paradigm shift—from digital convenience to digital responsibility.

Additionally, Green Office Education fostered interdisciplinary learning by connecting office administration with sustainability science. Students engaged in mini-projects such as designing digital archiving systems that track document lifecycles and proposing eco-friendly digital communication strategies for local SMEs. These project-based learning experiences bridged theoretical understanding and real-world application, strengthening both employability and civic awareness (Agustin, 2018).

5. Impact and Broader Implications

The implications of this model extend beyond the classroom. Students reported that the Green Office Education approach improved their employability, particularly in digital administration and sustainable management roles. They also exhibited greater awareness of global environmental issues and expressed commitment to applying green principles in future workplaces.

The study reinforces the idea that integrating sustainability into vocational education is not merely an ethical obligation but a strategic necessity. The Education for Sustainable Development (ESD) framework by UNESCO (Implementation & Administrative, 2023) emphasizes the need for education systems to empower learners to make responsible decisions. This research provides empirical evidence that such empowerment can be achieved through practical, technology-driven strategies embedded in curriculum design.

Overall, the results confirm that Green Office Education creates a balanced learning ecosystem where digital competence, environmental ethics, and institutional management intersect harmoniously. The model successfully bridges the gap between theoretical green education ideals and the actual digital transformation needs of the modern workplace(Zuhriyah, 2023).

CONCLUSION

This study concludes that the development of the Green Office Education Learning Model successfully integrates digitalization and sustainability principles into vocational education, particularly in the field of Office Administration. The model emphasizes not only the improvement of students' digital competence through the use of cloud-based technologies and paperless administrative practices but also the cultivation of eco-conscious behaviors in their daily academic and professional activities. These findings indicate that digital learning environments, when aligned with green values, can enhance both technological literacy and environmental awareness among students. Future research is recommended to implement and evaluate this model in different vocational contexts to assess its broader applicability and impact on sustainable education practices.

REFERENCES

Agustin, A. V. (2018). Penerapan Green Office di Kantor Pelayanan Perbendaharaan Negara Jakarta III. *Jurnal Utilitas*, *4*(1), 9–15.

Anwar, T., & Utomo, Y. W. (2017). Implementasi Paperless Office Pada Sistem Monitoring Dan Evaluasi Program Kerja Organisasi Mahasiswa. *Jurnal Matrik*, *17*(1), 56. https://doi.org/10.30812/matrik.v17i1.61

Devica. (2020). Jurnal bisnis terapan. *Jurnal Bisnis Terapan*, *04*, 69–82.

Fauziah, A. S., & Nugroho, F. H. (2024). Improving Digital Competency for Educators and Education Personnel Through Google Workspace for Education. *Amalee: Indonesian Journal of Community Research and Engagement*, *5*(1), 337–349. https://doi.org/10.37680/amalee.v5i1.4019

Habibi, M. W., Buditjahjanto, I. G. P. A., & Rijanto, T. (2024). Digital literacy ability of private vocational students in Surabaya City. *Journal of Education and Learning*, *18*(3), 745–752. https://doi.org/10.11591/edulearn.v18i3.21104

Implementation, T. H. E., & Administrative, O. F. (2023). *SERVICES BASED ON " PAPERLESS OFFICE " AT INDONESIAN MILITARY*. *11*(2), 117–125.

Rahmawati, S., Abdullah, A. G., Widiaty, I., & Islami, A. R. (2022). The Distributions of Vocational High School Teachers' Advanced Digital Competence (ADC). *Journal of Technical Education and Training*, *14*(2 SPECIAL ISSUE), 190–201. https://doi.org/10.30880/jtet.2022.14.02.017

Sugiyono. (2016). *Metode Penelitian Kuantitatif* (Alfabeta (Ed.)).

Suriyani, C., Hendriyani, Y., Rizal, F., & Huda, A. (2025). *Digital Literacy Integration Model and Creative Thinking for Enhancing Vocational Student Competencies in the Society 5 . 0 Era*. *10*(2), 231–244.

Wahjusaputri, S., & Nastiti, T. I. (2022). Digital literacy competency indicator for Indonesian high vocational education needs. *Journal of Education and Learning (EduLearn)*, *16*(1), 85–91. https://doi.org/10.11591/edulearn.v16i1.20390

Zuhriyah, A. (2023). The role of Smart Education (SE) in supporting Digital Eco-Literacy (DEL). *Indonesian Journal of Geography*, *55*(1), 167–171. https://doi.org/10.22146/ijg.74409