Journal of Office Administration: Education and Practice

Volume5 Issue 1, pp.22-35 (2025)

Hompage: https://ejournal.unesa.ac.id/index.php/joa

Students' Self-Directed Learning in Digital Document Management by Using a Digital Filing Cabinet: A Case Study in Yogyakarta

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ARTICLE INFO

Keywords:

Digital Filing Cabinet, Self-Directed Learning, Cognitive Ability

Article History:

Received April 30, 2025
Revised May 10, 2025
Accepted May 12, 2025
Available online May 31, 2025

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ABSTRACT:

The learning process in archival studies has not yet reached an ideal state for achieving graduate-level competencies. The influence of ICT integration in archival practice within higher education on students' self-directed learning remains underexplored. This study aims to analyze students' self-directed learning in archival practice using the Digital Filing Cabinet (DFC). A descriptive quantitative approach was employed, involving 68 students enrolled in the Archival Management course at the Vocational Faculty of Yogyakarta State University. Data was collected using an online questionnaire and analyzed through descriptive statistical methods to portray students' levels of self-directed learning. The findings reveal that the use of DFC supports the development of students' cognitive skills and fosters self-directed learning in archival management. Further research is recommended to explore the effectiveness of DFC in relation to other variables within the archival learning process.

INTRODUCTION

The Industrial Revolution 4.0 era demands innovative learning that utilizes technological components to achieve best practices in developing competencies (Ramírez-Montoya et al., 2022, p. 3). Technology-integrated learning helps students broaden their knowledge and

deepen their skills (Ghory & Ghafory, 2021). One level of education that specifically focuses on skill development to meet the demands of Industry 4.0 is vocational education (Spöttl & Windelband, 2021). Vocational education, as part of higher education, emphasizes specialized, creative, and responsive training aligned with industry needs to prepare job-ready graduates (Dahalan et al., 2024). This means learning is oriented toward practice that mirrors professional work environments, where students formulate, test, and solve real-world problems (Sutirman et al., 2022). Therefore, vocational education must stay responsive to current developments to prepare graduates capable of adapting to changes in the industrial landscape.

Archival studies represent a core competency for office administration graduates (Mutmainnah et al., 2020). Archival management includes competencies related to repository management, information security, record preservation, and utilization (Ngoepe et al., 2024). Archiving plays a vital role in protecting institutional information from the risks of data leakage or the loss of critical records (Keshta & Odeh, 2021). Proper archival procedures aim to preserve informational value and facilitate future access (Lestari, 2022). Efficient archival systems also support quicker retrieval of documents when needed (Ardiana & Suratman, 2020). In contrast, poorly managed archives can lead to damage, data loss, or delays in retrieval (Sholikah & Hermanto, 2021). Thus, archival management is a fundamental competency within office administration.

Currently, digital document management learning has yet to reach optimal conditions in which students receive competency-based instruction aligned with technological advancement. Sutirman et al. (2017) explain that current learning practices still prioritize knowledge acquisition over skills development. In vocational schools, this tendency continues, as archival learning remains heavily knowledge-focused Sutirman et al. (2023). Such passive and classical learning approaches hinder students' critical thinking skills (Nikmah, 2023). Kuswantoro et al. (2023) emphasize that archival learning requires hands-on practice to provide deeper understanding and real-world relevance.

Moreover, digital document management presents unique challenges and requires extensive preparation. Read and Ginn, as cited by (Sutirman, 2019), describe the digital document life cycle as involving creation and storage, distribution and use, maintenance, and disposition. Digital document management differs significantly from conventional archiving in that it requires specific systems and tools to ensure both security and accessibility (Fachmi & Mayesti, 2022). Digital literacy is essential to ensure effective and efficient management (Otamiri & Gonweee, 2022). Therefore, digital document management demands thorough

preparation and the integration of digital competencies.

In addition to cognitive aspects, *self-directed learning* is also a crucial factor that influences academic achievement and critical thinking (Fitriani et al., 2024). Self-directed learning refers to students' ability to engage in learning independently, setting their own learning goals and paths (Gronauer & Diepold, 2022; Wiriani, 2021). This skill significantly enhances learning motivation—higher self-directed learning is positively correlated with greater interest in learning (Linasari & Arif, 2022). Wiriani (2021) found that self-directed learning positively affects learning outcomes. Abdiansyah and Listiadi (2023) further argue that self-directed learning is essential in practical learning, as students must manage their own learning process. As such, cultivating self-directed learning is essential to improve student performance and foster independent learning habits.

Previous studies have linked self-directed learning with motivation and academic performance. Li et al. (2021) noted that students with strong self-directed learning tendencies read more, engage in autonomous behaviors, and demonstrate higher motivation than those with lower self-direction. Similarly, Khalid et al. (2020) found a strong positive correlation between self-directed learning and academic performance. Rafiola, Setyosari, and Radjah (2020) showed that motivation significantly affects student achievement. Moreover, student-centered learning models require students to take responsibility for their learning, which enhances learning outcomes (Sukardjo & Salam, 2020). Suryani et al. (2020) concluded that self-directed learners are more resilient and successful in overcoming learning difficulties. These findings support the importance of fostering self-directed learning among students.

In practical learning, instructional media serve as tools to enhance students' skill acquisition. Muslikhah et al. (2022) assert that appropriately designed practical media support effective learning outcomes. In archival education, adequate practical media are especially important. According to Putri et al. (2024), using guided inquiry learning models in practical media enhances students' critical thinking and learning interest. Various digital tools have been used for archival learning, such as Digital File Cabinet (DFC), Windows Explorer, Google Drive, and Electronic Record Information System for Education (ERISE) (Tune Sumar et al., 2022; Sutirman, et al., 2022). Permana and Nugroho (2023) emphasized that the use of practical media enhances comprehension and memory retention of conceptual materials.

Numerous studies have also examined the relationship between ICT-based learning media and self-directed learning. For instance, Firat (2023) found that ChatGPT enhances learning and learner autonomy by enabling interactive, independent, and in-depth learning

experiences. (Fuchs & Aguilos, 2023) stated that ChatGPT supports self-directed exploration of complex concepts and theories. Azarova et al. (2020) concluded that ICT enhances students' self-direction and classroom performance, improving overall learning efficiency. Alamri et al. (2021) added that advancements in technology transform students into active, flexible, personalized, and self-paced learners. These empirical findings affirm that ICT facilitates self-directed learning.

However, few studies have examined whether ICT-based archival learning tools can effectively support self-directed learning. For example, (Sutirman et al., 2023) found that ERISE supports more independent learning in vocational schools. Yanto et al. (2022) found that an electric drive training kit facilitates student autonomy in practical learning. While these studies show the potential of digital tools to support self-directed learning in archival practice, many are conducted at the secondary education level. This study addresses this gap by exploring how the use of the Digital Filing Cabinet (DFC) in higher education affects students' self-directed learning in archival practice. The goal is to examine the role of ICT in facilitating autonomous practical learning at the tertiary level.

METHOD

This study employed a quantitative descriptive research design using a survey method. The research was conducted on all students currently enrolled in the Archival Management course at the Faculty of Vocational Studies, Universitas Negeri Yogyakarta. The total population consisted of 68 students. Data collection techniques and instruments were carried out using an online questionnaire. Indicators of learning independence were adopted from the questionnaire instrument developed by Khotimah and Astuti (2022), which includes discipline, self-confidence, initiative, and responsibility. The data were analyzed using descriptive statistics consisting of the mean, maximum, minimum, and standard deviation. These data were used to describe the students' learning independence during archival practice learning using the Digital Filing Cabinet (DFC). The R program was utilized in the data analysis process due to its advantages. Saiz et al. (2020) emphasize that the R program is a powerful tool for analyzing statistical variations, including descriptive statistics.

RESULTS AND DISCUSSIONS

The study was conducted to examine students' responses regarding the use of the Digital Filing Cabinet (DFC) in enhancing self-directed learning and knowledge in the Archival Management course. Data were collected from 28 items measuring self-directed learning and 7 items measuring knowledge. The data are presented in three parts: descriptive statistics, improvement in self-directed learning, and students' knowledge aspects.

Descriptive Statistics

The study was carried out by implementing a learning process supported by DFC. Students were then given a questionnaire to measure the improvement in their self-directed learning and knowledge. The results of student responses are presented in the following descriptive statistics:

Table 1 Students' Self-Directed Learning Using DFC

Characteristics	N	Average	SD	Max	Min
Discipline	68	4,15	0,71	5,00	2,67
Self-Confidence	68	4,08	0,73	5,00	3,00
Initiative	68	3,77	0,83	5,00	1,20
Responsibility	68	4,22	0,70	5,00	2,50

The data on students' self-directed learning using the Digital Filing Cabinet (DFC) show that all four indicators—discipline, self-confidence, initiative, and responsibility—received high scores. The highest average score was in the responsibility indicator, at 4.22, while the lowest average score was in the initiative indicator, at 3.77. The maximum score achieved by students across the four indicators was 5, while the minimum score was 1.2, found in the initiative indicator. The overall average score for students' self-directed learning using DFC was 4.055, indicating a very high level. This finding is consistent with Zahra et al. (2023), who explained that practicum activities involving applications can encourage students to work through cases to completion and face challenges in their use, thereby fostering practical understanding and self-directed learning. Similarly, Khulaifiyah et al. (2024) noted that initiative reflects students' curiosity in the learning process. Therefore, self-directed learning can be enhanced using DFC in instructional practices.

Table 2 Students' Perceptions of DFC Usage

Perception Items	N	Average	SD	Max	Min
Through the DFC program, students can understand the material on electronic archive management.	68	4,12	0,604	5	3
Through the DFC program, students can understand the material on electronic management of incoming mail.	68	4,09	0,667	5	3
Through the DFC program, students can understand the material on electronic management of outgoing mail.	68	4	0,727	5	2
Through the DFC program, students can understand the process of electronic disposition of incoming mail.	68	4,12	0,710	5	3
Through the DFC program, students can understand the creation of electronic mail classification.	68	4,09	0,667	5	3

The data on student perceptions of using DFC shows that 4 perception items received an average score of more than 4, and 1 item received an average score of 4. The perception item with the highest score was the understanding of electronic archive management and the electronic disposition of incoming mail, both with a score of 4.12. Meanwhile, the perception item with the lowest score was the ability to understand electronic management of outgoing mail, with a score of 4. Overall, the students' perception of using DFC received an average score of 4.084, indicating a very high perception. This is consistent with Sutirman et al. (2023), who explain that using applications can encourage students to learn independently, allowing them to experience, gain experience, and discover concepts on their own, leading to improved learning outcomes. In addition, hands-on practice can provide valuable experience that influences knowledge and skills improvement in electronic archiving (Yuliansah et al., 2023). Therefore, the use of DFC effectively enhances students' cognitive abilities or knowledge about archive management.

Aspects of Student Self-Directed Learning

Student independence is shaped through four indicators: discipline, self-confidence, initiative, and responsibility. The data from the archive practice using DFC shows that the discipline indicator received an average score of 4.15, which is categorized as very high. Discipline reflects that, during the use of DFC, students follow the practicum properly, starting from reading instructions, understanding steps, practicing each step, repeating if there is a mistake, and completing the practice on time. This indicates that DFC encourages students to

be disciplined during the practicum process, allowing them to find an independent learning pattern. Puspasari and Muyassaroh (2023) explain that disciplined students in completing tasks, adhering to rules, using facilities, and behaving appropriately will be able to manage their study schedules, preventing laziness. High discipline will motivate students to follow lessons, whether in the laboratory, classroom, or at home, becoming a key to improving learning outcomes (Muspawi, 2020).

Self-confidence is related to the belief that students can successfully complete tasks without hesitation (Moneva & Tribunalo, 2020). The data shows that DFC usage enhances students' self-confidence, with an average score of 4.08, categorized as very high. DFC boosts students' self-confidence by allowing them to believe in their ability and competence to operate DFC and achieve good grades. Confidence is crucial for improving participation, reducing anxiety, enhancing interest, and fostering comfort and enjoyment in learning, which in turn aids the learning process (Akbari & Sahibzada, 2020). Moreover, self-confidence directly influences perseverance and effectiveness, enabling students to stay focused and enthusiastic for longer periods to complete specific tasks (Malureanu et al., 2021).

Initiative is a critical aspect of learning, signifying students' drive to learn without being prompted (Tsang et al., 2021). The data shows an average initiative score of 3.77, categorized as high. The use of DFC encourages students to review tutorial videos, usage instructions, and labsheets to prepare for the practicum and complete the posttest. Heflin and Macaluso (2021) explain that students with initiative are aware of their responsibility to manage time, attend lessons, and complete courses with commitment, making them more engaged in acquiring skills. Initiative is vital for students to develop problem-solving and creative thinking, enabling them to tackle more complex issues (Simanjuntak et al., 2021).

Responsibility is the ability of students to realize and complete tasks to the best of their ability to improve academic performance (Agustina & Setiawan, 2020). The study results show that responsibility received a score of 4.22, categorized as very high. This means that using DFC is very effective in improving students' responsibility. Students used DFC according to instructions, adhered to agreements and regulations, refrained from cheating, and were committed to completing the archive practicum to the best of their ability. Bali and Musrifah (2020) explain that responsibility motivates students to engage sincerely in the learning process so they do not fall behind in the material. A sense of responsibility is essential because it is the key to group success through participation in all learning processes (Jainal & Shahrill, 2021).

Based on the explanation above, students' learning independence has significantly improved during the archive practicum using DFC. This finding indicates that DFC is effective in enhancing learning independence. Rafiola et al. (2020) explain that technology supports independent learning because students can study anything using various internet features and platforms related to learning. This encourages students to develop critical thinking skills, digital literacy, and active engagement. Torun (2019) notes that independent learning contributes positively to students' learning outcomes and academic achievement. Therefore, DFC plays an important role in enhancing students' independence in archive learning.

Knowledge Aspect

The use of DFC provides valuable experience in archive learning for students. DFC offers a real implementation of file transfer from hardcopy to softcopy. Moreover, the process of classification and storage is very systematic, as it provides a classification list, thereby giving students an experience with electronic concepts. Practicum not only improves learning outcomes but also provides valuable experiences for understanding the next learning material (Anjarsari et al., 2023). The DFC practicum, which includes instructions, practical execution, and practice completion, helps students process information to form an understanding of the learning material. DFC also enables activities to convert files from hardcopy to softcopy through a scanning process with a scanner machine. Stages in electronic archive management, such as incoming mail reception, disposition, outgoing mail management, scanning, storage, retrieval, and general maintenance, have been facilitated through features in DFC (Ardiana & Suratman, 2020). Therefore, proper learning is necessary to understand archive concepts.

The use of DFC helps students understand electronic archive management well. The perception data shows that using DFC enables students to understand electronic archive management material, with an average score of 4.12, categorized as very high. This means that DFC provides the right practicum media for understanding the concept of electronic archiving. The data also shows that DFC helps students understand electronic management of incoming mail, with a score of 4.09, categorized as very high. Other results show that DFC helps students understand the management of outgoing mail electronically, with an average score of 4, categorized as high. This means students agree that DFC helps them understand the flow of managing incoming and outgoing electronic mail effectively. Furthermore, DFC helps students understand the electronic disposition process of incoming mail, with a score of 4.12, categorized as very high. This means that students understand the process of electronic

disposition of incoming mail very well. DFC also helps students understand the creation of mail classification, with an average score of 4.09, categorized as very high. DFC encourages students to classify mail accurately. Based on these results, it can be concluded that, in general, the use of DFC significantly improves students' understanding of electronic archiving.

The use of DFC encourages students to understand archiving not only theoretically but also in practice, providing a comprehensive understanding of electronic archive management. Kinasih et al. (2024) explain that learning through practicum enhances material understanding, fosters motivation, and develops critical and analytical thinking skills. Practicum supported by work instructions helps guide students in learning (Dirgatama et al., 2021) to understand and practice individually, leading to deeper understanding. Additionally, labsheets help facilitate students' practicum, offering more meaningful learning by presenting theories connected to real-world issues (Hindriana, 2020). Learning equipped with video tutorials provides specific material and makes practicum easier (S. K. Putri & Nugroho, 2025). These factors contribute to creating comprehensive and maximal understanding in electronic archive management. Therefore, the use of DFC significantly enhances students' understanding and cognitive abilities in electronic archive management.

CONCLUSION

The development of technology has become an important factor in ensuring that office administration graduates possess the skills to compete in the workforce. The use of technology in learning plays a crucial role in ensuring students' understanding of concepts and practical exercises. The research results show that the use of DFC enhances students' cognitive abilities and learning independence in archive management. The aspect of learning independence has shown significant improvement, as reflected in the indicators of discipline, self-confidence, initiative, and responsibility during the use of DFC. The proven significant role of DFC media in supporting students' learning independence in archive practicum learning complements previous studies on the role of ICT in education. Although its impact on learning independence has been demonstrated, further research is needed to prove the effectiveness of using DFC in relation to other variables in the learning process, especially in archive practicum.

ACKNOWLEDGEMENT

The author expresses gratitude to the Faculty of Economics and Business, Universitas Negeri Yogyakarta, for granting permission for this research. The author also extends thanks

to the cooperation from the Vocational Faculty, Universitas Negeri Yogyakarta. Special thanks to everyone involved in the planning, implementation, and publication of this research.

REFERENCES

Abdiansyah, F., & Listiadi, A. (2023). Pengaruh Efikasi Diri dalam Pembelajaran Akuntansi dan Motivasi Berprestasi terhadap Kemandirian Belajar Siswa pada Mata Pelajaran Praktikum Akuntansi. *JIIP - Jurnal Ilmiah Ilmu Pendidikan*, *6*(11), 8565–8571. https://doi.org/10.54371/jiip.v6i11.2592

Agustina, L., & Setiawan, R. (2020). Fostering a Natural Atmosphere; Improving Students' Communication Skill in a Business Meeting. *Journal of Languages and Language Teaching*, *8*(3), 307–314. https://doi.org/10.33394/jollt.v8i3.2746

Akbari, O., & Sahibzada, J. (2020). Students' Self-Confidence and Its Impacts on Their Learning Process. *American International Journal of Social Science Research*, *5*(1), 1–15. https://doi.org/10.46281/aijssr.v5i1.462

Alamri, H. A., Watson, S., & Watson, W. (2021). Learning Technology Models that Support Personalization within Blended Learning Environments in Higher Education. *TechTrends*, *65*(1), 62–78. https://doi.org/10.1007/s11528-020-00530-3

Anjarsari, C., Suyatna, A., & Viyanti. (2023). Comparison of Cognitive Learning Outcomes and Students' Science Process Skills Between Hands on Practicum and Virtual Laboratory Based on PhET Simulation Viewed from Students' Learning Style. *Jurnal Penelitian Pendidikan IPA*, *9*(11), 9524–9531. https://doi.org/10.29303/jppipa.v9i11.4065

Ardiana, S., & Suratman, B. (2020). Pengelolaan Arsip Dalam Mendukung Pelayanan Informasi Pada Bagian Tata Usaha di Dinas Sosial Kabupaten Ponorogo. *Jurnal Pendidikan Administrasi Perkantoran (JPAP)*, *9*(2), 335–348. https://doi.org/10.26740/jpap.v9n2.p335-348

Azarova, L., Pustovit, T., Radomska, L., & Horchinska, L. (2020). Use of Information Technologies in Studying Phraseology in the Course of Ukrainian as a Foreign Language. *Advanced Education*, *7*(16), 39–48. https://doi.org/10.20535/2410-8286.206786

Bali, M. M. E. I., & Musrifah, M. (2020). The Problems of Application of Online Learning in the Affective and Psychomotor Domains During the Covid-19 Pandemic. *Jurnal Pendidikan Agama Islam*, *17*(2), 137–154. https://doi.org/10.14421/jpai.2020.172-03

Dahalan, F., Alias, N., & Shaharom, M. S. N. (2024). Gamification and Game Based Learning for Vocational Education and Training: A Systematic Literature Review. *Education and Information Technologies*, *29*(2), 1279–1317. https://doi.org/10.1007/s10639-022-11548-w

Dirgatama, C. H. A., Siswandari, & Indrawati, C. D. S. (2021). Pemanfaatan Buku Digital Kearsipan Kurikulum 2013 Berbasis Android pada Sekolah Vokasi. *Soedirman Economics Education Journal*, *3*(1), 27–36.

Fachmi, A., & Mayesti, N. (2022). Tinjauan Literatur Argumentatif tentang Kepemilikan Data Arsip Digital Non-Fungible Token (NFT) pada Teknologi Blockchain. *Berkala Ilmu Perpustakaan Dan Informasi*, *18*(1), 144–158. https://doi.org/10.22146/bip.v18i1.3989

Firat, M. (2023). *How Chat GPT Can Transform Autodidactic Experiences and Open Education?* (pp. 1–5). https://doi.org/10.31219/osf.io/9ge8m

Fitriani, Bado, B., Inanna, Supatminingsih, T., & Najamuddin. (2024). Student Learning Independence : Antecedents and Consequences. *International Journal of Applied Economics, Acounting and Management (IJAEAM)*, *2*(1), 23–40.

Fuchs, K., & Aguilos, V. (2023). Integrating Artificial Intelligence in Higher Education: Empirical Insights from Students about Using ChatGPT. *International Journal of Information and Education Technology*, *13*(9), 1365–1371.

Ghory, S., & Ghafory, H. (2021). The Impact of Modern Technology in the Teaching and Learning Process. *International Journal of Innovative Research and Scientific Studies*, *4*(3), 168–173. https://doi.org/10.53894/ijirss.v4i3.73

Gronauer, S., & Diepold, K. (2022). Multi-Agent Deep Reinforcement Learning: A Survei . *Artificial Intelligence Review*, *55*(2), 895–943. https://doi.org/10.1007/s10462-021-09996-w

Heflin, H., & Macaluso, S. (2021). Student Initiative Empowers Engagement for Learning Online. *Online Learning*, *25*(3), 230–248. https://doi.org/10.24059/olj.v25i3.2414

Hindriana, A. F. (2020). Pengembangan Lembar Kerja Praktikum Berbasis Diagram Vee Guna Memfasilitasi Kegiatan Laboratorium Secara Bermakna. *Quagga: Jurnal Pendidikan Dan Biologi*, *12*(1), 62–68. https://doi.org/10.25134/quagga.v12i1.2331

Jainal, N. H., & Shahrill, M. (2021). Incorporating Jigsaw Strategy to Support Students' Learning through Action Research. *International Journal on Social and Education Sciences*, *3*(2), 252–266. https://doi.org/10.46328/ijonses.75

Keshta, I., & Odeh, A. (2021). Security and Privacy of Electronic Health Records: Concerns and Challenges. *Egyptian Informatics Journal*, *22*(2), 177–183. https://doi.org/10.1016/j.eij.2020.07.003

Khalid, M., Bashir, S., & Amin, H. (2020). Relationship between Self-Directed Learning (SDL) and Academic Achievement of University Students: A Case of Online Distance Learning and Traditional Universities. *Bulletin of Education and Research*, *42*(2), 131–148.

Khotimah, H., & Astuti, F. (2022). Pengaruh Kontribusi Kemandirian Belajar Terhadap Hasil Belajar Seni Tari Siswa Kelas X SMA Negeri 2 Padang. *Jurnal Sendratasik*, *11*(2), 181–189. https://doi.org/10.24036/js.v11i2.114182

Khulaifiyah, K., Suryanti, N., & Ahmad, A. (2024). Integrasi Autonomous Learning dalam Pembelajaran Berbasis Digital di SMK Yapim Siak Hulu. *Abditeknika Jurnal Pengabdian Masyarakat*, *4*(1), 34–40. https://doi.org/10.31294/abditeknika.v4i1.3110

Kinasih, D. L., Hariyanto, P. D., Nurjanah, P. W., Sa'diyah, S. N., Sari, Y. P., & Wicaksono, I. (2024). Pengaruh Pembelajaran Berbasis Praktikum terhadap Pemahaman Siswa pada Materi Perubahan Wujud Benda . *Pendas: Jurnal Ilmiah Pendidikan Dasar*, *9*(2), 408–420.

Kuswantoro, A., Purasani, H. N., & Permana, D. F. (2023). Praktik Elektronik Arsip Pembelajaran Bagi Siswa Jurusan Administrasi Perkantoran SMK Pelita Nusantara 1 Semarang. *Jurnal Pengabdian Kepada Masyarakat Nusantara (JPkMN)*, *4*(4), 3454–3461.

Lestari, A. D. (2022). Pemanfaatan Teknologi Informasi pada Pengelolaan Arsip Dinamis di Bidang Pencatatan Sipil Disdukcapil Kabupaten Karanganyar. *Al-Kuttab : Jurnal Kajian Perpustakaan, Informasi Dan Kearsipan*, *4*(2), 13–23. https://doi.org/10.24952/ktb.v4i2.5193

Li, H., Majumdar, R., Chen, M.-R. A., & Ogata, H. (2021). Goal-Oriented Active Learning (GOAL) System to Promote Reading Engagement, Self-Directed Learning Behavior, and Motivation in Extensive Reading. *Computers & Education*, *171*, 1–11. https://doi.org/10.1016/j.compedu.2021.104239

Linasari, R., & Arif, S. (2022). Pengaruh Kemandirian Belajar Terhadap Minat Belajar IPA Siswa Kelas VIII SMP. *Jurnal Tadris IPA Indonesia*, *2*(2), 186–194. https://doi.org/10.21154/jtii.v2i2.874

Malureanu, A., Panisoara, G., & Lazar, I. (2021). The Relationship between Self-Confidence, Self-Efficacy, Grit, Usefulness, and Ease of Use of eLearning Platforms in Corporate Training during the COVID-19 Pandemic. *Sustainability*, *13*(12), 1–20. https://doi.org/10.3390/su13126633

Moneva, J., & Tribunalo, S. M. (2020). Students' Level of Self-confidence and Performance Tasks. *Asia Pacific Journal of Academic Research in Social Sciences, 5*(1), 42–48.

Muslikhah, R. I., Kusuma, C. S. D., & Suhartanto. (2022). Distance Learning Practicum During Covid-19 Pandemic. In *Proceedings of the 9th International Conference on Education Research, and Innovation (ICERI 2021)* (pp. 505–510). Atlantis Press SARL. https://doi.org/10.2991/978-2-494069-67-1_57

Muspawi, M. (2020). The Influence of Discipline in Learning and Educational Interactions on Student Learning Outcomes at SMK . *Dinasti International Journal of Educational Interactions on Student Learning Outcomes at SMK*, *1*(5), 649–660.

Mutmainnah, S., Sitanggang, G., & Hasyim. (2020). Peningkatan Kompetensi Pengelolaan Arsip Melalui Praktek Pemberkasan Arsip di SMK Swasta PAB 3 Medan. *Prosiding Seminar Nasional Hasil Pengabdian Masyarakat: Kontribusi Perguruan Tinggi Dalam Pemberdayaan Masyarakat Di Masa Pandemi*, 26–29.

Ngoepe, M., Jacobs, L., & Mojapelo, M. (2024). Inclusion of Digital Records in the Archives and Records Management Curricula in a Comprehensive Open Distance E-Learning Environment. *Information Development*, *40*(2), 190–201. https://doi.org/10.1177/02666669221081812

Nikmah, K. (2023). Penerapan Metode Pembelajaran Observasi Lapangan pada Mata Kuliah Studi Arsip untuk Meningkatkan Kemampuan Berpikir Kritis Mahasiswa. *ASANKA : Journal of Social Science and Education*, *4*(1), 26–33. https://doi.org/10.21154/asanka.v4i1.5912

Otamiri, S., & Gonweee, G. B. (2022). Digital Communication Skill and Administrative Manager Job Performance in Public Tertiary Institutions in Rivers State. *Journal in Innovations in Accounting and Information Management*, *9*(2), 100–111.

Permana, A. H., & Nugroho, D. A. (2023). Monopoly-Based Augmented Reality Game Design as a Practice Media in Learning the Physics of Magnetism Concepts. *Journal of Physics: Conference Series*, *2596*(1), 1–7. https://doi.org/10.1088/1742-6596/2596/1/012081

Puspasari, D., & Muyassaroh, J. (2023). The Effect of Learning Motivation and Learning Discipline on Student Learning Achievement. *Scaffolding: Jurnal Pendidikan Islam Dan Multikulturalisme*, *5*(2), 110–126. https://doi.org/10.37680/scaffolding.v5i2.2778

Putri, J. K., Gunawan, C. W., & Wiyatmo, Y. (2024). Implementation of Guided Inquiry to Increase Students' Interest in Learning Physics and Critical Thinking Skills. *Jurnal Pendidikan Fisika Dan Teknologi*, *10*(2), 257–263. https://doi.org/10.29303/jpft.v10i2.7091

Putri, S. K., & Nugroho, R. (2025). Implementasi Program Friday ClassSebagai Pengembangan Vocational Skill Peserta Didik Paket A di Homeschooling Kak Seto Surabaya. *J+PLUS: JurnalMahasiswa Pendidikan Luar Sekolah*, *14*(1), 21–45.

Rafiola, R. H., Setyosari, P., & Radjah, C. L. (2020). The Effect of Learning Motivation, Self-Efficacy, and Blended Learning on Students' Achievement in The Industrial Revolution 4.0. *International Journal of Emerging Technologies in Learning (IJET)*, *71*(82), 71–82.

Rafiola, R. H., Setyosari, P., Radjah, C. L., & Ramli, M. (2020). The Effect of Learning Motivation, Self-Efficacy, and Blended Learning on Students' Achievement in The Industrial Revolution 4.0. *International Journal of Emerging Technologies in Learning (IJET)*, *15*(08), 71–82. https://doi.org/10.3991/ijet.v15i08.12525

Ramírez-Montoya, M. S., Castillo-Martínez, I. M., Sanabria-Z, J., & Miranda, J. (2022). Complex Thinking in the Framework of Education 4.0 and Open Innovation—A Systematic Literature Review. *Journal of Open Innovation: Technology, Market, and Complexity*, *8*(1), 1–15. https://doi.org/10.3390/joitmc8010004

Saiz, A. Z., González, C. Q., Gil, L. H., & Ruiz, D. M. (2020). Data Analysis with R. In A. Zamora Saiz, C. Quesada González, L. Hurtado Gil, & D. Mondéjar Ruiz (Eds.), *An Introduction to Data Analysis in R* (pp. 183–271). Springer Cham. https://doi.org/10.1007/978-3-030-48997-7_5

Sholikah, M., & Hermanto, F. Y. (2021). Manajemen Arsip Dinamis Dalam Meningkatkan Akuntabilitas Sekolah. *Jurnal Pendidikan Administrasi Perkantoran (JPAP)*, *9*(3), 321–331. https://doi.org/10.26740/jpap.v9n3.p321-331

Simanjuntak, M. P., Hutahaean, J., Marpaung, N., & Ramadhani, D. (2021). Effectiveness of Problem-Based Learning Combined with Computer Simulation on Students' Problem-Solving and Creative Thinking Skills. *International Journal of Instruction*, *14*(3), 519–534. https://doi.org/10.29333/iji.2021.14330a

Spöttl, G., & Windelband, L. (2021). The 4th Industrial Revolution - Its Impact on Vocational Skills . *Journal of Education and Work*, *34*(1), 29–52. https://doi.org/10.1080/13639080.2020.1858230

Sukardjo, Moch., & Salam, M. (2020). Effect of Concept Attainment Models and Self-Directed Learning (SDL) on Mathematics Learning Outcomes. *International Journal of Instruction*, *13*(3), 275–292.

Suryani, L., Pendi, A., & B. Seto, S. (2020). Pengaruh Efikasi Diri Dan Kemandirian Belajar Terhadap Hasil Belajar Mata Kuliah Geometri Dasar Pada Mahasiswa Program Studi Pendidikan Matematika Universitas Flores. *AKSIOMA : Jurnal Matematika Dan Pendidikan Matematika*, *11*(1), 17–26. https://doi.org/10.26877/aks.v11i1.6010

Sutirman. (2019). *Administrasi Kearsipan di Era Teknologi Informasi*. UNY Press.

Sutirman, Muhyadi, & Surjono, H. D. (2017). Problems in Learning of Electronic Filing at Vocational School in Yogyakarta Special Region , Indonesia. *Journal of Education and Practice*, *8*(5), 94–99.

Sutirman, S., Yuliansah, Y., Muslikhah, & Isti, R. (2023). *The Effectiveness of Electronic Records Information System for Education (ERISE) Applications as a Learning Media of Record Management in the Era of the Industrial Revolution 4.0* (pp. 1094–1104). https://doi.org/10.2991/978-2-494069-35-0_131

Sutirman, Sofyan, H., Arifin, Z., Nurtanto, M., & Mutohhari, F. (2022). Industry and Education Practitioners' Perceptions Regarding the Implementation of Work-Based Learning through Industrial Internship (WBL-II). *International Journal of Information and Education Technology*, *12*(10), 1090–1097.

Sutirman, Yuliansah, & Muslikhah, R. I. (2022). The Effectiveness of Electronic Record Information System for Education (ERISE) on Improving Electronic Filing Skills in the New Normal Era. In *Proceedings of the 9th International Conference on Education Research, and Innovation (ICERI 2021)* (pp. 131–138). Atlantis Press SARL. https://doi.org/10.2991/978-2-494069-67-1_15

Torun, E. D. (2019). Online Distance Learning in Higher Education: E-Learning Readiness as a Predictor of Academic Achievement. *Open Praxis*, *12*(2), 191–208. https://doi.org/10.5944/openpraxis.12.2.1092

Tsang, J., So, M., Chong, A., Lam, B., & Chu, A. (2021). Higher Education during the Pandemic: The Predictive Factors of Learning Effectiveness in COVID-19 Online Learning. *Education Sciences*, *11*(8), 1–15. https://doi.org/10.3390/educsci11080446

Tune Sumar, W., Abdul Radjak, I., & Lamatenggo, N. (2022). Digital-Based Archives Management Training For Sub-District Employees and Village Appliances In The Telaga Jaya District, Gorontalo Regency. *Devotion : Journal of Research and Community Service*, *3*(13), 2186–2193. https://doi.org/10.36418/dev.v3i13.273

Wiriani, W. T. (2021). Pengaruh Kemandirian Belajar Terhadap Hasil Belajar Siswa pada Pembelajaran Online. *Jurnal Ilmiah Matematika Realistik*, *2*(1), 57–63. https://doi.org/10.33365/ji-mr.v2i1.436

Yanto, D. T. P., Candra, O., Dewi, C., Hastuti, H., & Zaswita, H. (2022). Electric Drive Training Kit sebagai Produk Inovasi Media Pembelajaran Praktikum Mahasiswa Pendidikan Vokasi: Analisis Uji Praktikalitas . *JINoP (Jurnal Inovasi Pembelajaran)*, *8*(1), 106–120.

Yuliansah, Y., Sutirman, S., Dwihartanti, M., & Kistiananingsih, I. (2023). Pelatihan Penggunaan ERISE sebagai Media Pembelajaran Kearsipan Elektronik bagi Guru SMK Otomatisasi dan Tata Kelola Perkantoran Di Daerah Istimewa Yogyakarta. *Jurnal ABDINUS : Jurnal Pengabdian Nusantara*, *7*(2), 347–358. https://doi.org/10.29407/ja.v7i2.18641

Zahra, M. S., Setiasih, R. M., Usman, S. A., Anis, A. Z., & Septiani, M. (2023). Pemanfaatan Aplikasi Pembelajaran untuk Memfasilitasi Belajar Siswa SMK Jurusan Akuntansi . *Journal of Learning and Technology*, *2*(1), 18–25. https://doi.org/10.33830/jlt.v2i1.5286