Journal of Management Studies and Development
Vol. 4, No. 03, pp. 406-417
journal.iistr.org/index.php/JMSD
DOI: 10.56741/jmsd.v4i03.1459

Perceived Usefulness, Ease of Use, and Intention to Use Gregg Shorthand for On-the-Job Training: Evidence from 4th-Year Office Administration Students

[1]Cecille C. Higan*, [2]Katrina Cassandra G. Cortez, [3]Mary Joy B. Molina, [4]Jayvie O. Guballo
Corresponding Author: *2022-105762@rtu.edu.ph
[1] Rizal Technological University, Mandaluyong, Philippines

ARTICLE INFO

Article history
Received 14 October 2025
Revised 28 November 2025
Accepted 1 December 2025

ABSTRACT

The current study examines the influence of perceived usefulness and perceived ease of use on the intention of fourth-year Bachelor of Science in Office Administration students to utilize Gregg Shorthand during their On-the-Job Training (OJT). With the evolution of technology and its impact on administrative tasks, the practical relevance of shorthand remains uncertain in modern training settings. Grounded in the Technology Acceptance Model, the study aimed to assess how students perceive the usefulness and ease of use of Gregg Shorthand and whether these perceptions influence their intention to use it. A quantitative approach was utilized, surveyed 178 students from Rizal Technological University with a structured questionnaire. Results from simple linear regression analysis indicated that perceived usefulness ($\beta = 0.834$, $p = 0.001$) and perceived ease of use ($\beta = 0.879$, $p = 0.001$) strongly and positively influence intention to use Gregg shorthand during OJT. The empirical findings suggest students are more inclined to use Gregg Shorthand when they perceive it as beneficial and easy to use. These conclusions indicate that shorthand could still be valuable in administrative training if taught more practically and relevantly. The study emphasizes the need to focus on curriculum alignment with practical applications and recommends enhancement of the syllabus pertinent to shorthand instructions, especially in fields demanding rapid accuracy. Furthermore, the study recommends more exploration into field-specific approaches concerning the

needs of students and instructional design to enhance performance and engagement with Gregg Shorthand.

Keywords
Gregg Shorthand
Intention to Use
On-the-Job Training
Perceived Ease of Use
Perceived Usefulness

This is an open-access article under the CC–BY-SA license.

Introduction

Within this context, shorthand remains a relevant but understudied competency. International and local research highlights its importance in enhancing writing speed, improving listening accuracy, and facilitating efficient real-time documentation [6][7][8]. Studies comparing handwriting and typing also emphasize the unique cognitive benefits of manual note-taking, including deeper processing and better conceptual retention, which closely align with the functional purpose of shorthand [9][10][11]. Despite rapid technological advancement, shorthand continues to serve highly specialized demands in administrative, legal, academic, and ethnographic settings where accuracy and speed are essential.

In higher education, particularly in Office Administration programs, shorthand is still integrated into skills-based curricula and competency standards. Moreover, the emergence of technological innovations such as machine-learning-assisted shorthand recognition and mobile learning applications [12][13][14] demonstrates ongoing efforts to modernize shorthand and increase its relevance in digitally supported work environments. These developments reflect broader educational priorities under Sustainable Development Goal 4 (SDG4), which emphasizes equitable access to quality education, skill development, and workplace readiness [15].

Although several studies address stenography skills, student challenges, and the technological modernization of shorthand, there remains a notable research gap regarding its perceived usefulness, perceived ease of use, and intention to use during on-the-job training (OJT). No contemporary local or international studies have directly examined how Gregg Shorthand—one of the most widely used shorthand systems—fits within students' workplace experiences. This absence is significant because research on educational technology adaptation consistently demonstrates that perceptions of usefulness and ease of use strongly shape learners' intention to adopt a skill or tool [16][17][18][19]. These TAM-based insights, although developed in digital contexts, are increasingly applied to hybrid learning systems and

skill-acquisition models, suggesting conceptual relevance even for manual competencies like shorthand.

Given the limited literature on shorthand adoption during workplace immersion and the growing importance of hybrid communication skills, the present study aims to address this gap by examining Office Administration students' perceptions of Gregg Shorthand in relation to its usefulness, ease of use, and their intention to apply it during OJT. By integrating cognitive note-taking literature, stenography research, and acceptance frameworks, this study contributes new insights into the relevance of shorthand education in contemporary professional preparation.

Literature Review

A. Perceived Usefulness on Intention to Use

Perceived usefulness has consistently been identified as a primary determinant of users' behavioral intention to adopt a technology or skill. Recent studies show that individuals are more likely to use a tool when they believe it will enhance their performance, productivity, or efficiency in task completion. For example, current research on technology adoption demonstrates that perceived usefulness, alongside perceived ease of use and user attitudes, significantly predicts instructors' and students' intention to adopt learning technologies [20]. Applying this perspective to the context of shorthand, students are more likely to engage with Gregg Shorthand during their on-the-job training (OJT) when they believe that the skill contributes to faster, more accurate, and more organized documentation.

Barajas-Murphy [21] examined factors influencing the continuance intention of students using digital learning materials and found that learners' perceived practicality and relevance of the tool significantly shaped their ongoing use. Satisfaction played a mediating role between perceived usefulness and intention, suggesting that learners continue to use a tool when they find it valuable in accomplishing academic or task-related requirements. Translating this insight into shorthand learning, students who perceive shorthand as a beneficial, time-saving, and professionally relevant competency are more likely to continue using it and applying it during OJT, regardless of external expectations from instructors.

Thus, the perceived usefulness of Gregg Shorthand becomes a crucial motivational factor that can influence whether students intend to integrate it into their workplace tasks, such as note-taking, documentation, and handling rapid dictation.

Hypothesis 1: Perceived Usefulness significantly influence Intention to Use

B. Perceived Ease of Use on Intention to Use

Perceived ease of use refers to the degree to which learners believe that acquiring and performing a skill will require minimal effort. Recent studies on skill-based learning emphasize

that when students find a subject less intimidating, manageable, and structurally accessible, they are more likely to sustain engagement and perform better. Research on shorthand instruction [22] revealed that students' interest and motivation were shaped by the clarity of instructional content, the sufficiency of practice time, and the manageability of course requirements. However, persistent challenges such as difficulty writing outlines, identifying vowel placements, and managing time pressure negatively influenced performance and, consequently, students' willingness to continue using shorthand.

Similarly, Ewomaoghene [23] found that students often experience difficulties in transcription, dictation, phrasing, and reading printed shorthand materials. These challenges contribute to low performance and reduced confidence, which may hinder students' intention to use the skill in future professional tasks. When learners struggle with fundamental operations of shorthand, such as constructing accurate outlines or decoding printed texts, they may perceive shorthand as demanding and avoid continued use despite acknowledging its potential usefulness.

In a related context, Etulle et al. [24] identified several factors affecting stenographers' listening and transcription abilities, including cognitive load, environmental distractions, and linguistic complexity. Although these challenges were eventually overcome through structured practice and skill mastery, they illustrate how difficulties in the learning process can initially diminish perceived ease of use. Supporting students as they navigate similar challenges in Gregg Shorthand through guided practice, clear instruction, and realistic application may improve their perceptions of ease and strengthen their intention to use the skill.

Hypothesis 2: Perceived Ease of Use significantly influence Intention to Use

Material and Methods

The primary objective of this study is to examine the relationship between perceived usefulness, perceived ease of use, and intention to use Gregg Shorthand during OJT. A simple random sampling technique was applied to select 178 respondents from a population of 326 BSOA students. The required sample size was computed using the Raosoft calculator, and participation was voluntary.

A structured questionnaire measured three constructs: Perceived Usefulness, Perceived Ease of Use, and Intention to Use. All scales demonstrated high internal consistency (Cronbach's alpha: usefulness = .985; ease-of-use = .942; intention to use = .953). Descriptive statistics showed moderate-to-positive perceptions overall. Linear regression analyses were conducted to test whether perceived usefulness and perceived ease of use significantly predicted intention to use shorthand during OJT.

Table 1. Reliability Test Result

Indicators	Cronbach's Alpha	Internal Consistency
Perceived Usefulness	.985	Excellent
Perceived Ease of Use	.942	Excellent
Intention to Use	.953	Excellent

Legend: If α ≥ 0.90 = Excellent, 0.90 > α ≥ 0.80 = Good, 0.80 > α ≥ 0.70 = Acceptable, 0.70 > α ≥ 0.60 = Questionable, 0.60 > α ≥ 0.50 = Poor, 0.50 > α = Unacceptable

The reliability analysis of three scales (Perceived Usefulness, Perceived Ease of Use, and Intention to Use) involving Gregg Shorthand during on-the-job training (OJT) showed excellent internal consistency. The Perceived Usefulness scale (Cronbach's Alpha = .985) demonstrated strong inter-item correlations (.885 to .980) and high item-total correlations (.925 to .980), indicating that all five items consistently measure students' perceptions of Gregg Shorthand's utility. Students moderately agreed that the shorthand helps improve speed, productivity, effectiveness, and task completion, with items between 3.35 and 3.50.

The Perceived Ease of Use scale also showed high reliability (Alpha = .942), with inter-item correlations from .575 to .887 and item-total correlations from .745 to .923. Respondents generally found Gregg Shorthand easy to learn and user-friendly, reflected in item means ranging from 3.45 to 3.80. These responses suggest a positive but varied perception of the simplicity of use.

Finally, the Intention to Use scale (Alpha = .953) also showed strong reliability, with inter-item correlations ranging from .711 to .948 and item-total correlations from .836 to .934. The item means (3.20 to 3.60) suggests that most students intend to continue using and recommend Gregg Shorthand, with the strongest agreement on enjoying its use during OJT. Across all scales, standard deviations above 1.3 indicate a range of experiences among students.

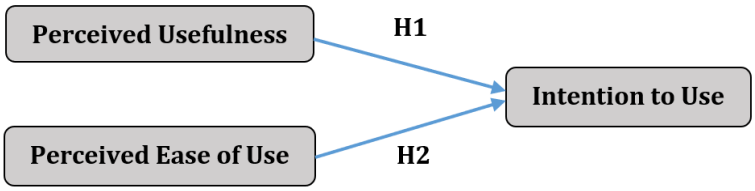


Fig. 1. Research Paradigm

The study's framework examines the link between perceived usefulness, ease of use, and the intention to utilize Gregg Shorthand for students' on-the-job training. In this study, perceived usefulness refers to students' perceptions of how Gregg Shorthand helps them increase their productivity and efficiency. The ease of use addresses the students' comfort and familiarity with shorthand, which can significantly impact whether or not they are willing to utilize it in their OJT.

Results

Table 2 presents the regression analysis examining the relationship between the perceived usefulness of Gregg Shorthand and the intention to use it. The results show the extent to which users' perceptions of the shorthand system's usefulness predict their intention to adopt it, highlighting the strength and significance of this influence.

Table 2. Regression Analysis between Perceived Usefulness and Intention to Use

	B	T	Sig.	Remarks
(Constant)	.293	1.880	.062	There is no significant and positive influence.
Perceived Usefulness of Gregg Shorthand	.834	18.026	.001	There is a significant and positive influence.

a. Dependent Variable: Intention to Use

The evaluation shows that the perceived usefulness of Gregg Shorthand significantly influenced intention to use, as the p-value < 0.05 (p = 0.001) and the positive Beta result of the perceived usefulness of Gregg Shorthand (β = 0.834). The findings suggest that the perceived usefulness of Gregg shorthand has a significant and positive influence on intention to use. Therefore, the findings support Hypothesis 1: The perceived usefulness of Gregg Shorthand has a significant and positive influence on intention to use.

The outcome tends to coincide with Schorr's Technology Acceptance Model [25], where perceived usefulness is considered a significant motivator for using a technology. Although shorthand is a manual skill and not a digital technology, such cognitive processes seem responsible for its adaptation and utilization. When the respondents realize that shorthand helps them finish their jobs faster, they are more inclined to use it, just like the TAM model states. However, the findings contradict with Almulla [26], which showed that perceived usefulness alone is not a good determinant of skill adoption among students learning manual note-taking techniques. The authors proposed that factors like ease of learning and institutional support also significantly impacted the outcome. The difference indicates that while usefulness is an important aspect, there might be other elements, such as quality of training and workplace relevance, which will affect students' intention to acquire shorthand as a long-term skill.

Because p < 0.05, the more useful respondents believe the shorthand is to them, the more likely they are to apply it, indicating that the main driver for the adoption is its usefulness. As mentioned previously, the Beta coefficient is positive, ensuring that increasing awareness of the usefulness of shorthand does indeed increase the intention to use it. The very strong correlation involving perceived usefulness and intention to use implies that the awareness of the usefulness of shorthand may promote greater adaptation.

Table 3. Regression Analysis between Perceived Ease of Use and Intention to Use

	B	T	Sig.	Remarks
(Constant)	.086	.457	.648	There is no significant and positive influence.
Perceived Ease of Use of Gregg Shorthand	.879	15.829	.001	There is a significant and positive influence.

a. Dependent Variable: Intention to Use

The evaluation shows that the perceived ease of use of Gregg Shorthand significantly influenced intention to use, as the p-value < 0.05 (p = 0.001) and the positive Beta result of perceived ease of use of Gregg Shorthand (β = 0.879). The result denotes that Gregg Shorthand's perceived ease of use significantly and positively influences intention to use. The findings support Hypothesis 2: The perceived ease of use of Gregg Shorthand has a significant and positive influence on intention to use.

This conclusion resonates with the study in Kelly & Palaniappan [27] on the Technology Acceptance Model, which holds that ease of use is one of the significant indicators that will determine technology adoption. While Gregg Shorthand is not a digital application, the findings suggest that this principle is valid; when the perception of learning and using the skill is easy, people will be more likely to adopt and maintain it. This would further enhance the need for structured and simplified shorthand training for higher acceptance. These results contrast with a study in Ayanwale & Molefi [28], where the link between ease of use and intention to use manual note-taking methods was minimal among the students. Their study revealed that external motivators like institutional requirements and workplace expectations influence skill adoption more dominantly. This discrepancy indicates that while ease of use is important, other variables such as industry relevance and long-term benefits may also contribute to students' intention to use shorthand.

The p-value below 0.05 demonstrates that the more convenient it seems for respondents to learn and apply shorthand, the more likely they are to employ it. By being positive, the beta coefficient emphasizes that the shorthand instruction should be simplified to increase its usage. Therefore, the skill shall have higher applicability among students and professionals for practical work. The considerable connection between perceived usability and intention to use implies that simplification in Gregg Shorthand training may lead to increased adoption rates.

Discussions

A. Cognitive and Practical Bases

The finding that perceived usefulness predicts students' intention to use Gregg Shorthand during on-the-job training (OJT) reflects broader evidence that handwriting-based note-taking offers lasting cognitive benefits, even in digital contexts [29]. Research comparing handwriting

and typing shows that students who take notes by hand perform better on free-recall tasks, despite typing allowing faster recording. The slower, deliberate nature of handwriting appears to support deeper processing and stronger memory encoding advantages likely relevant to shorthand, particularly under fast-paced OJT conditions.

Neurophysiological studies reinforce this perspective. A recent EEG study suggests that handwriting, even on digital devices, engages broader brain networks than typing, indicating heightened sensorimotor and attentional activity [30]. Students who perceive shorthand as useful may anticipate these benefits (faster note-taking, improved recall, and more accurate transcription) which helps explain their stronger intention to adopt it.

Perceived ease of use also influences intention. Pedagogical theory and cognitive load research suggest that tools perceived as manageable and learnable are more readily adopted. Handwritten notes have been shown to enhance comprehension and retention, particularly when reviewed, compared with typed notes [31]. Structured writing, whether longhand or shorthand, allows mental processing, paraphrasing, and synthesis rather than verbatim transcription. In shorthand training, ease of use can reduce cognitive overload and promote consistent practice, especially when instruction is properly scaffolded.

B. Shorthand in Contemporary Workplaces

Modern workplaces increasingly emphasize skill hybridity. It is the ability to shift between manual and digital methods based on situational needs, such as taking quick meeting notes, handling confidential dictation, or managing live transcription. Shorthand provides notable advantages by enabling fast manual note-taking when typing or recording is unsuitable, while also serving as a practical bridge for converting handwritten information into digital formats later.

Although a 2022 study found no consistent performance advantage of handwritten over typed notes under controlled conditions [32], this does not diminish shorthand's value in real-world settings, where information capture often occurs under time pressure with limited opportunity for review. Controlled studies on handwriting's cognitive and neural effects [33] suggest shorthand can enhance memory, attention, and transcription accuracy in such contexts.

Recent developments in handwritten-input technologies, including stylus-based note-to-text apps, demonstrate that handwriting and digital tools can coexist. Hybrid tools allow shorthand users to combine rapid manual transcription with digital storage, editing, and sharing, meeting contemporary workplace demands for both efficiency and adaptability. Handwriting recognition and OCR research further confirm that handwritten content remains compatible and valuable in digital workflows [34].

Conclusion

This study explored students' perceptions of the usefulness, ease of use, and intention to use Gregg Shorthand across three academic tracks—executive, legal, and medical—to address the scarcity of recent research on shorthand adoption in today's digitally oriented learning and workplace environments. The findings show that although students generally view shorthand as a helpful tool for improving efficiency, its actual use during OJT remains limited.

Across all tracks, students consistently recognized Gregg Shorthand as beneficial for saving time, reducing transcription workload, and enabling quick note-taking. Each group, however, emphasized different strengths. Executive and legal track students highlighted shorthand's ability to streamline documentation tasks, while medical track students associated it more with improved time management and smoother workflow organization. Interestingly, many students did not strongly link shorthand use with direct performance improvement. This suggests that they view shorthand as supporting the process of completing tasks efficiently, rather than directly enhancing final outcomes.

Students also reported that Gregg Shorthand is relatively easy to learn because of its straightforward structure and techniques. Despite this, many were unsure about applying it confidently to a variety of tasks. This indicates that even when a skill is perceived as easy to learn, it may not translate into mastery or routine use without sufficient practice. The gap points to the need for more structured training, guided application, and opportunities to use shorthand in realistic workplace situations.

Another notable finding is that while students were generally willing to recommend shorthand to future OJT participants, they were less inclined to use it themselves. This suggests that they acknowledge shorthand's potential benefits but face contextual obstacles, such as limited opportunities to practice, low confidence, or reliance on digital tools that hinder actual adoption.

Consistent with the Technology Acceptance Model, the study confirms that both perceived usefulness and perceived ease of use significantly influence intention to use Gregg Shorthand. When students believe that shorthand can help them work more efficiently and feel confident that it is manageable to learn, they are more motivated to adopt it in professional tasks. These findings contribute to a broader understanding of how traditional manual documentation skills can remain relevant in modern training environments and how students' perceptions shape their willingness to use them.

This study is limited by its reliance on self-reported data and the absence of direct performance comparisons between shorthand and other note-taking methods. Future research may incorporate experimental or observational approaches to measure shorthand's

real-time efficiency and accuracy, examine analog versus digital note-taking under time pressure, and evaluate instructional strategies that promote skill retention and consistent use. Expanding the study to include additional programs or institutions may also strengthen the generalizability of the results.

Overall, the findings suggest that while Gregg Shorthand continues to offer functional value in contemporary OJT settings, students' adoption of the skill is strongly influenced by their perceptions of its usefulness, ease of learning, and applicability. Enhancing instructional approaches and integrating shorthand more fully into authentic workplace tasks may increase its relevance and encourage more consistent use in evolving professional environments.

Conflict of Interest

The authors declare no conflict of interest.

References

[1] A. S. Ihara, K. Nakajima, A. Kake, K. Ishimaru, K. Osugi, and Y. Naruse, "Advantage of handwriting over typing on learning words: Evidence from an N400 event-related potential index," *Frontiers in Human Neuroscience*, vol. 15, 679191, 2021, doi: 10.3389/fnhum.2021.679191.

[2] F. R. van der Weel and A. L. van der Meer, "Handwriting but not typewriting leads to widespread brain connectivity: A high-density EEG study with implications for the classroom," *Frontiers in Psychology*, vol. 14, 1219945, 2024, doi: 10.3389/fpsyg.2023.1219945.

[3] J. B. Henke, S. K. Jones, and T. A. O'Neill, "Skills and abilities to thrive in remote work: What have we learned," *Frontiers in Psychology*, vol. 13, 893895, 2022, doi: 10.3389/fpsyg.2022.893895.

[4] L. Jaß, A. Klußmann, V. Harth, and S. Mache, "Job demands and resources perceived by hybrid working employees in German public administration: A qualitative study," *Journal of Occupational Medicine and Toxicology*, vol. 19, no. 1, p. 28, 2024.

[5] P. Weritz, "Hey leaders, it's time to train the workforce: Critical skills in the digital workplace," *Administrative Sciences*, vol. 12, no. 3, 94, 2022, doi: 10.3390/admsci12030094.

[6] M. Y. Musa and K. M. Salleh, "The relevance of shorthand in the modern office," in *Proc. 2nd Asia Pacific Int. Conf. Industrial Engineering and Operations Management*, Surakarta, Indonesia, 2021.

[7] H. T. Tabe and E. K. Materechera, "Academic writing technique: The influence of stenography on students' academic performance in higher education," *Cogent Education*, vol. 11, 2306883, 2024, doi: 10.1080/2331186X.2024.2306883.

[8] J. Lönngren, "On the value of using shorthand notation in ethnographic fieldwork," *Ethnography and Education*, vol. 16, no. 1, pp. 60–76, 2021, doi: 10.1080/17457823.2020.1746917.

[9] M. D. Shell, M. Strouth, and A. M. Reynolds, "Make a note of it: Comparison in longhand, keyboard, and stylus note-taking techniques," *Learning Assistance Review*, vol. 26, no. 2, pp. 1–21, 2021.

[10] B. J. Lee, "Comparing factual recall of tapped vs. handwritten text," *Acta Psychologica*, vol. 212, 103221, 2021, doi: 10.1016/j.actpsy.2020.103221.

[11] J. Siegel, "Pen and paper or computerized notetaking? L2 English students' views and habits," *Computers and Education Open*, vol. 4, 100120, 2023, doi: 10.1016/j.caeo.2022.100120.

[12] D. A. Cardaña *et al.*, "StenogrApp: E-learning Android application in recognition of basic Gregg Shorthand using machine learning," in *Proc. 2024 10th Int. Conf. Education and Training Technologies*, pp. 43–48, Apr. 2024.

[13] D. A. Padilla, N. K. U. Vitug, and J. B. S. Marquez, "Deep learning approach in Gregg shorthand word to English-word conversion," in *Proc. 2020 IEEE 5th Int. Conf. Image, Vision and Computing (ICIVC)*, pp. 204–210, 2020, doi: 10.1109/ICIVC50857.2020.9177452.

[14] M. A. D. Perin, L. S. Feliscuzo, and C. L. C. Sta. Romana, "EskayApp: An Eskaya-Latin script OCR transliteration e-learning Android application," in *Proc. 5th Int. Conf. Digital Technology in Education*, pp. 1–7, Sept. 2021, doi: 10.1145/3488466.3488467.

[15] UNESCO, "Education 2030. Global Education Monitoring Report 2023," Accessed: 2024. [Online]. Available: https://www.unesco.at/en/education/education-2030/global-education-monitoring-gem-report/gem23
[16] R. Scherer, F. Siddiq, and J. Tondeur, "The technology acceptance model (TAM): A meta-analytic SEM approach to teachers' adoption of digital technology," *Computers & Education*, vol. 128, pp. 13–35, 2019, doi: 10.1016/j.compedu.2018.09.009.
[17] A. Granić and N. Marangunić, "Technology acceptance model in educational context: A systematic literature review," *British Journal of Educational Technology*, vol. 50, no. 5, pp. 2572–2593, 2019, doi: 10.1111/bjet.12864.
[18] A. Granić, "Educational technology adoption: A systematic review," *Education and Information Technologies*, vol. 27, no. 7, pp. 9725–9744, 2022.
[19] Y. Lin and Z. Yu, "Extending TAM to higher-education students' use of digital academic reading tools," *Int. J. Educational Technology in Higher Education*, vol. 20, no. 1, 34, 2023.
[20] A. P. David and J. J. B. R. Aruta, "Modeling Filipino teachers' intention to use technology: A MIMIC approach," *Educational Media International*, vol. 59, no. 1, pp. 62–79, 2022, doi: 10.1080/09523987.2022.2054114.
[21] N. Barajas-Murphy, *Digital Textbooks: A Study of Factors Affecting College Student Adoption*. University of La Verne, 2017.
[22] B. Adombilla, A. Diana, and A. Roger, "Motivation and shorthand performance: A case study of Bolgatanga Polytechnic," *New Media and Mass Communication*, vol. 76, pp. 7–11, 2018, doi: 10.7176/NMMC.VOL767-11.
[23] O. Ewomaoghene, "Appraisal of students' academic performance in shorthand in College of Education, Warri," *ATBU Journal of Science, Technology and Education*, vol. 6, no. 2, pp. 283–292, 2018.
[24] R. D. Etulle *et al.*, "Investigating listening and transcription performance in court: Experiences from stenographers in Philippine courtrooms," *Journal of Language and Pragmatics Studies*, vol. 2, no. 2, pp. 100–111, 2023, doi: 10.58881/jlps.v2i2.25.
[25] A. Schorr, "The Technology Acceptance Model (TAM) and its Importance for Digitalization Research: A Review," *Sciendo eBooks*, pp. 55–65, 2023, doi: 10.2478/9788366675896-005.
[26] M. A. Almulla, "Investigating influencing factors of learning satisfaction in artificial intelligent for research: University students' perspective," *Heliyon*, vol. 10, no. 11, e32220, 2024, doi: 10.1016/j.heliyon.2024.e32220.
[27] A. E. Kelly and S. Palaniappan, "Using a TAM to determine factors influencing continued usage of mobile money in Ghana," *Journal of Innovation and Entrepreneurship*, vol. 12, 2023, doi: 10.1186/s13731-023-00301-3.
[28] M. A. Ayanwale and R. R. Molefi, "Exploring intention of undergraduate students to embrace chatbots: The vantage point of Lesotho," *Int. J. Educational Technology in Higher Education*, vol. 21, 2024, doi: 10.1186/s41239-024-00451-8.
[29] E. Aragón-Mendizábal, C. Delgado-Casas, J. Navarro-Guzmán, I. Menacho-Jiménez, and M. F. Romero-Oliva, "A comparative study of handwriting and computer typing in note-taking by university students," *Comunicar*, vol. 24, no. 48, pp. 101–107, 2016, doi: 10.3916/C48-2016-10.
[30] F. R. van der Weel and A. L. van der Meer, "Handwriting but not typewriting leads to widespread brain connectivity," *Frontiers in Psychology*, vol. 14, 1219945, 2024.
[31] C. Kuepper-Tetzel, "Handwritten versus typed note-taking effects on college students' performance," 2024. [Online]. Available: https://www.learningscientists.org/blog/2024/7/18-1
[32] D. Voyer, S. T. Ronis, and N. Byers, "The effect of notetaking method on academic performance: A systematic review and meta-analysis," *Contemporary Educational Psychology*, vol. 68, 102025, 2022, doi: 10.1016/j.cedpsych.2021.102025.
[33] F. R. van der Weel and A. L. van der Meer, "Handwriting but not typewriting leads to widespread brain connectivity," *Frontiers in Psychology*, vol. 14, 1219945, 2024.
[34] J. Memon, M. Sami, R. A. Khan, and M. Uddin, "Handwritten optical character recognition (OCR): A comprehensive systematic literature review," *IEEE Access*, vol. 8, pp. 142642–142668, 2020, doi: 10.1109/ACCESS.2020.3012542.

Authors



Cecille C. Higan is a fourth-year Bachelor of Science in Office Administration student at Rizal Technological University – Boni Campus for the Academic Year 2025–2026. She is a consistent academic achiever and a TESDA National Certificate holder in Customer Services (NC II) and Event Management Services (NC III). Her academic and professional pursuits reflect her commitment to continuous learning and personal growth in the field of office administration. (email: 2022-105762@rtu.edu.ph).



Katrina Cassandra G. Cortez is a dedicated and goal-oriented fourth-year student pursuing a Bachelor of Science in Office Administration at Rizal Technological University – Boni Campus. She seeks to continuously demonstrate a strong commitment to academic excellence and personal development, consistently striving to broaden her knowledge and skills. (email: 2022-106352@rtu.edu.ph).



Mary Joy B. Molina is a fourth-year student at Rizal Technological University – Boni Campus taking a Bachelor of Science in Office Administration. Her TESDA National Certificates in Event Management Services (NC III) and Customer Service (NC II) provided her with the hands-on skills required for organizational coordination and administrative assistance. She aims to apply her knowledge in high-paced workplaces wherein professionalism and efficiency are a must. (email: 2022-105891@rtu.edu.ph).



Jayvie O. Guballo is a university lecturer specializing in business research, administration, and human resource management. Before entering academia, he spent nearly eight years as a corporate recruitment manager, gaining experience in industries such as hospitality, oil and gas, engineering, and finance. He holds a BS in Office Administration from Rizal Technological University and both an MBA (Human Resource Management) and DBA from the Polytechnic University of the Philippines. He also holds certifications as a Certified Human Resource Professional® (United Kingdom) and Certified Marketing Professional (Australia). (email: joguballo@rtu.edu.ph).