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Information and Communication Technology (ICT) Competencies of Students

A Case Study at Bachelor of Science in Office Administration Students in Pre-Internship

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ABSTRACT

The study aims to assess the Information and Communication Technology (ICT) competencies of Bachelor of Science in Office Administration (BSOA) third-year students at Camarines Sur Polytechnic Colleges (CSPC) in preparation for their pre-internship. The research problem centers on evaluating students' readiness in identifying factors that influence their ICT proficiency, which is crucial for success in the modern professional workplace. The hypothesis assumes no significant relationship exists between the competency levels and the factors affecting the competencies. Using quantitative, correlational research design, data was collected through a structured online questionnaire distributed to 144 BSOA students. The study analyzed various competency levels: basic, intermediate, and advanced ICT skills. The results revealed that the majority of the students show basic to intermediate ICT proficiency, with several factors such as personal background, socio-economic status, and access to technology playing a role in their competency levels. A significant relationship was found between these factors and ICT competency, rejecting the null hypothesis. The study concludes that targeted interventions are necessary to enhance students' ICT skills before their internships. The findings have implications for curriculum design, suggesting that integrating more advanced ICT training could better prepare students for the digital workplace demands.

Keywords
BSOA Students
Digital Proficiency
ICT Competencies
Internship Preparation
Pre-internship Readiness

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Introduction

Information and communication technology (ICT) has become important not just in education but also in various other fields today. Integrating ICT skills has become essential for success in the professional world. Every aspect of life uses information and communication technologies, or ICT. It has altered everything, including working, learning, and problem-solving. Haslaman [1] defined ICT as combining the concepts of information, communication, and technology into a unified definition. Knowledge is represented by information, and technology involves the use of computers and communication methods. In this way, ICT combines computer applications and communication technology for managing and sharing information. Kapur [2] also stated that ICT enriches the education system. When individuals use ICT, proper knowledge of ICT is essential before using it to complete job duties in an organized way.

According to the International Telecommunication Union (ITU), just 6% of people aged 15 and older possess basic internet skills, and only 2% have standard digital skills. Less than 1% have advanced digital skills. The 2030 Global Digital Connectivity Target aims for 50% of those aged 15+ to have standard digital skills and 70% to have basic digital skills [3]. Nowadays, thinking about how organizations would run without them is nearly complicated. ICT tools have changed the time and location of learning and working, which is advantageous for working professionals and students. According to Infante et al. [4], given ICT's significance in both society and the workforce, it must be reflected in education and students' development as future professionals. As a result, analyzing students' ICT skill levels and their perceptions of these competencies is essential to determine their knowledge and areas for improvement.

According to CHED Memorandum Order No. 19 S 2017 under section 9, this Bachelor of Science in Office Administration component is designed to enhance three key competencies: communication skills, logical and critical thinking, quantitative reasoning, and computer literacy. Students should be trained to become computer literate because this can help them do their tasks, especially during internships.

According to the study by Hakim & Kurniawati [5] internships play a key role in enhancing ICT skills and work readiness. They suggest that internships are crucial for improving students' work readiness, as ICT skills alone do not directly influence it but need to

be developed through internships. Internships also amplify the impact of competencies on work readiness of the students. This was also supported by Kalla [6]; ICT has proven to help develop communication skills and soft skills on a similar 3 gender basis and in student use—ICT-enabled tools for developing entrepreneurial and communication skills irrespective of their specialization.

Moreover, the researchers examined various ICT competencies through a comprehensive evaluation process, including digital literacy, software proficiency, information management, and communication skills. Understanding the students' current level of ICT competencies helps teachers and professors better understand and align the pre-internship curriculum and training programs to bridge gaps and enhance their overall readiness for the professional world.

Material and Methods

A. Research Design

In conducting the study, the researchers applied a quantitative type of research and made use of a correlational method in order to assess the ICT competencies of third year BSOA students during their pre-internship. This approach uses naturalistic inquiry to comprehend social processes in their natural environments better. It made an effort to obtain respondents' comprehensive opinions. This part of the study was not only for gathering and tabulating data but, more deeply, it was premised on assessing the ICT competencies of third-year BSOA students of Camarines Sur Polytechnic Colleges (CSPC) during their pre-internship.

B. Respondents

The respondents of the study are the CSPC's 3rd year Bachelor of Science in Office Administration students who will be having their internship next academic year. Respondents are from the College of Tourism, Hospitality and Business Management of Camarines Sur Polytechnic Colleges with a total number of 142 students.

Table 1. The Respondents of the Study

Section	Frequency	Percentage	Rank
A	26	18%	4
B	30	21%	2.5
C	36	25%	1
D	28	21%	2.5
E	22	15%	5
Total	**142**	**100%**	

C. Research Instrument

To gather the necessary data for the study, the researchers utilized a questionnaire created with Google Forms as their primary method. With careful coordination and direction from the

research adviser and professor, the researchers created the questionnaires using the related literature and studies.

D. Documentary Analysis and Statistical Treatment of Data

The following statistical tools will aid the researchers in analyzing and interpreting the data.

- Percentage technique. This technique was employed to quantify and organize the responses. It was used to calculate the percentage of responses based on the respondents' profiles.
- Weighted mean. Used to evaluate the ICT competencies of the 3rd-year BSOA students, the weighted mean method was applied.
- Ranking Method. It is employed to indicate the ranking sequence—first, second, or last—and to show the level of ICT competencies developed by students before their internship. If ties exist, proper rank ordering should not be affected.
- Scatter plot and Correlation. Used to evaluate the significant relationship between competency skills and the factors that affect the development of these skills in BSOA students.

Results and Discussion

A. ICT Competencies of BSOA 3rd-Year Students

This section includes the data gathered from the respondents to evaluate the level of ICT competencies related to basic skills, intermediate skills, and advanced skills.

1. Competency on the ICT Basic Skills

Typing is one of the most basic and essential skills when using computers. This finding suggests that respondents have developed a foundational skill in basic computer skills, particularly in typing, browsing the internet, and managing files.

According to Preminger [7], keyboarding relies on synchronized sensory, mental, and motor functions. The research also shows students improving keyboarding with sufficient practice. Teaching students keyboarding skills equips them to handle tasks more effectively, confidently, and productively. Students actively engage with social networking platforms and apps, dedicating a lot of time to them daily [8]. File management is a ubiquitous practice that may be taken for granted. The fact that students universally practice it and working professionals regularly should signify its importance to educators [9].

Table 2. Competency on the ICT Basic Skills

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. Print documents or files from my computer.	3.25	Moderately Familiar	4
2. Familiar with using a computer keyboard for basic typing.	3.49	Moderately Familiar	1
3. Back up important computer files to an external drive (e.g., USB)	3.17	Moderately Familiar	5
4. Comfortable using cloud storage devices (e.g., Google Drive, Dropbox) to assess my files from any device.	3.04	Moderately Familiar	7
5. Familiar in managing files and organize them on folders of computer.	3.32	Moderately Familiar	3
6. Browse social media platforms and different web browser using computer.	3.37	Moderately Familiar	2
7. Compose and send professional-looking emails with attachments.	3.09	Moderately Familiar	6
8. Identify basic hardware components of computer system (e.g., CPU, RAM)	2.99	Slightly Familiar	8
9. Modify a database and insert data from another application.	2.87	Slightly Familiar	9
Average Weighted Mean	**3.18**	**Moderately Familiar**	

2. Competency on the ICT Intermediate Skills

Based on the data collected, the respondents' most developed intermediate ICT skills of the respondents are their understanding of the basics of using office productivity software such as MS Office or Google Workspace, ranked first with a weighted mean of 3.31. This finding suggests that the respondents have a slightly familiar level of proficiency in intermediate ICT skills, especially in using office productivity software, collaborating on digital platforms, and operating office equipment for document processing. Educational institutions can build on students' top three most developed ICT skills by creating programs that further refine and expand these competencies.

Table 3. Competency on the ICT Intermediate Skills

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. Install software applications on computer.	2.79	Slightly Familiar	8
2. Use graphic objects to enhance worksheets and charts.	2.90	Slightly Familiar	4
3. Create a Web Page based on a template and add hyperlinks.	2.65	Slightly Familiar	10
4. Set up and configure email accounts for myself or others in an office environment.	2.88	Slightly Familiar	5
5. Understand the basics of using office productivity software such as MS Office or Google Workspace.	3.31	Moderately Familiar	1
6. Create spreadsheet with basic formulas and functions (e.g., SUM, AVERAGE)	2.77	Slightly Familiar	9

Indicators	Weighted Mean	Verbal Interpretation	Rank
7. Create basic charts and graphs to represent data in a spreadsheet.	2.84	Slightly Familiar	7
8. Proficient in using office equipment such as printers, scanners, and copies for document processing tasks.	3.02	Moderately Familiar	3
9. Familiar with basic data analysis techniques using spreadsheet software.	2.85	Slightly Familiar	6
10. Sufficient in collaborating with others on documents or projects using online collaboration tools (e.g., google docs, Microsoft Teams).	3.09	Moderately Familiar	2
Average Weighted Mean	**2.91**	**Slightly Familiar**	

Tools for productivity and creativity help students build models, publish, plan, organize, map concepts, generate content, gather data, and develop and display other creative works. Similarly, tools for digital productivity are improving education. Tools for productivity and reactivity let users create models, publish, plan and organize, map concepts, generate content, gather data, and develop and display other creative works.

3. Competency on the ICT Advanced Skills

Based on the data collected, the most developed advanced ICT skills of the respondents, based on their ranks, are their familiarity with using calendar applications such as Google Calendar to schedule appointments and manage their agenda, ranked first with a weighted mean of 3.11. Students will likely be more familiar with Calendar applications like Google Calendar due to their practical and everyday utility.

Table 4. Competency on the ICT Advanced Skills

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. Knowledgeable in using electronic signature tools (e.g., DocuSign, Adobe Sign) to sign documents digitally.	2.65	Slightly Familiar	7.5
2. Performed data analysis using software tools (e.g., SPSS, R, Python).	2.36	Slightly Familiar	10
3. Manage Macro commands: concepts, planning, operations, execution, modification, interruption.	2.45	Slightly Familiar	9
4. Sufficient in organizing and categorizing documents for efficient retrieval.	2.65	Slightly Familiar	7.5
5. Familiar in using calendar applications (e.g., Google Calendar) to schedule appointments and manage my agenda.	3.11	Moderately Familiar	1
6. Familiar with spreadsheet software (e.g., Microsoft Excel, Google Sheets) for organizing and creating reports.	3.02	Moderately Familiar	2
7. Creating charts or graphs to visualize data.	2.86	Slightly Familiar	4
8. Use graphic effects such as dropped capital letters an art, insert WordArt, and draw in a document.	2.93	Slightly Familiar	3
9. My IT skill can help me finish every task and manage any data.	2.81	Slightly Familiar	6

Indicators	Weighted Mean	Verbal Interpretation	Rank
10. Use one form for two purposes: to add or to edit records.	2.82	Slightly Familiar	5
Average Weighted Mean	**2.77**	**Slightly Familiar**	

This was supported by the study Marsofiyati [10], Google Calendar is an app that helps users schedule tasks, keep track of their schedules, and receive reminders, ensuring they don't miss any appointments, even when workloads increase. Similarly, Marsofiyati [10] stated many users, particularly leaders and secretaries, remain unaware of how to operate Google Calendar, despite its advantages for those with hectic meeting schedules. Rosener [11] research highlights that MS Excel and Google Sheets offer a comprehensive set of features, such as complex calculations, data analysis, and support for collaborative work. Knowing how to use Excel spreadsheets is considered essential knowledge, giving students the opportunity to enhance their skills for improved career opportunities [12].

4. Summary of Competency on the ICT Skills

These are the combined results of the indicators: Basic Skills, Intermediate Skills, and Advanced Skills.

Table 5. Summary of Competency on the ICT Skills

Competency Skills	Average Weighted Mean	Verbal Interpretation	Rank
Basic skills	3.18	Moderately Familiar	1
Intermediate skills	2.91	Slightly Familiar	2
Advanced skills	2.77	Slightly Familiar	3
General Weighted Mean	**2.95**	**Slightly Familiar**	

It implies that the most developed skills of the respondents are those categorized under “Basic Skills”, as these were ranked the highest and interpreted as “Moderately Familiar”. These skills are already familiar and can be encountered when using digital tools. Following this, “Intermediate Skills” were ranked second, indicating that while respondents are somewhat familiar with these skills, they may require slightly more effort and exposure to master. Lastly, “Advanced Skills” were ranked third and interpreted as “Slightly Familiar”, since these skills require training and deep understanding.

According to Feijao [13], basic digital skills are more accessible because they are encountered in the everyday use of digital tools, such as using computers for basic tasks or understanding simple software functions. These are considered foundational and more common across diverse populations. Intermediate computer skills cover areas such as internet and email usage, word processing, graphics and multimedia, and working with spreadsheets and databases [14]. Additionally, advanced skills—such as cybersecurity, data analytics, and programming—require more in-depth training and specialized

knowledge. These skills are less common and demand a higher level of proficiency, typically acquired through formal education or focused training programs.

B. Factors Affecting ICT Competencies of BSOA 3rd Year Students

This section includes the presentation of the factors affecting the ICT competencies of BSOA 3rd year students under basic, intermediate, and advanced skills.

1. Basic Competency Factors

Based on the data, the top skill that students considered as factor is "Access to a reliable internet connection for practicing computer skills outside of class" with a weighted mean of 3.27. This reflects the growing dependency on online resources, tutorials, and digital tools that are only accessible through the internet. The data also shows that many students are not familiar in using computer applications such as Microsoft word and spreadsheet.

Table 6. Basic Competency Factors

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. Access to a reliable internet connection for practicing computer skills outside of class	3.27	Moderately Familiar	1
2. Increased in motivation to enhance ICT competencies to succeed in my future career as an office administrator.	3.08	Moderately Familiar	3
3. Sufficient training or guidance on basic computer skills from the academic institution.	2.99	Slightly Familiar	5
4. There are adequate resources available like computer lab, to practice and improve computer skills.	2.93	Slightly Familiar	6
5. Familiar use of computer applications relevant to the program, such as word processing or spreadsheet software.	3.13	Moderately Familiar	2
6. It took me an hour to finish and type an activity in the computer.	2.73	Slightly Familiar	7
7. Sufficient time in familiarizing the basic components of computer.	3	Moderately Familiar	4
Average Weighted Mean	**3.02**	**Moderately Familiar**	

These findings suggest that students view having a reliable internet connection as essential for developing their computer skills. Access to digital resources, practice opportunities, and online learning platforms is a higher priority than the time it takes to complete individual tasks.

A study by Ben et al. [15] found that access to digital resources and ICT tools correlates with better academic outcomes, especially when used innovatively and collaboratively. They also highlighted that student with reliable internet access were likelier to engage in independent learning, complete online assignments, and practice new skills at home. According to Rodrigueset al. [16], it is essential to analyze which technological skills are

built and developed by students in higher education in the different areas of competence to promote their balanced development in the future in each of their regions.

2. Intermediate Competency Factors

Based on the data presented, most of the respondents chose "trying out new technological advancements and trends related to office administration to stay updated" as the top factor in intermediate skills with a weighted mean of 2.92. The latest technological advancements involve managing information systems, coordinating communication channels, and ensuring the smooth operation of day-to-day tasks. Students often need beginner-level courses to learn the basics of hardware and operating systems.

Table 7. Intermediate Competency Factors

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. Sufficient understanding of basic computer hardware components, such as CPU, RAM, and hard drives.	2.85	Slightly Familiar	2.5
2. Familiar on operating systems, such as Windows or macOS.	2.85	Slightly Familiar	2.5
3. Trying out new technological advancements and trends related to office administration to stay updated.	2.92	Slightly Familiar	1
4. Knowledge on how to fix common technical issues on computer, such as software crashes or network connectivity problems.	2.72	Slightly Familiar	4
Average Weighted Mean	**2.84**	**Slightly Familiar**	

3. Advanced Competency Factors

The data presents that most of the students experienced "Knowledge and experience to use spreadsheet software, such as Microsoft Excel or Google Sheets, for data manipulation and analysis" as the top one factor with a weighted mean of 2.93. While BSOA programs typically cover the basics of office tools, students may not receive in-depth, practical training on spreadsheet software beyond surface-level functions (e.g., data entry or basic formatting). This leaves students unfamiliar with advanced features such as data manipulation, pivot tables, and complex formulas, essential for data analysis. They also don't have enough chances to learn about statistics and how to use it for analyzing data.

Table 8. Advanced Competency Factors

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. Familiar with basic concepts of data management, such as data entry, storage, and retrieval.	2.86	Slightly Familiar	2
2. Organize and structure data effectively for analysis purposes	2.82	Slightly Familiar	4

Indicators	Weighted Mean	Verbal Interpretation	Rank
3. Knowledge and experience to use spreadsheet software, such as Microsoft Excel or Google Sheets, for data manipulation and analysis.	2.93	Slightly Familiar	1
4. Have experience as to the basic data analysis tasks, such as sorting, filtering, and creating charts or graphs.	2.79	Slightly Familiar	5
5. Enough opportunity to learn about statistical concepts and methods relevant to data analysis in our program.	2.85	Slightly Familiar	3
6. Familiar with data cleaning techniques to ensure accuracy and consistency in datasets.	2.76	Slightly Familiar	6
Average Weighted Mean	**2.84**	**Slightly Familiar**	

In the study of Rosener [11], MS Excel and Google sheets offers a comprehensive suite of features including complex calculations, data analysis, and collaborative projects. Excel or Google Sheets offer significant efficiency, accuracy, and functionality advantages, despite the associated costs and technical considerations. As mentioned in the study of Smith, 2023, including software used in higher education is crucial for improving the student experience.

4. Summary of Factors affecting the ICT Competency

Table 9 shows the ICT competency factors of the respondents. These are the combined results on competency factors of basic skills, intermediate skills, and advanced skills.

Table 9. Summary of Factors affecting the ICT Competency

Competency Factors	Average Weighted Mean	Verbal Interpretation	Rank
Basic Skills	3.02	Moderately Familiar	3
Intermediate Skills	2.84	Slightly Familiar	2
Advanced Skills	2.84	Slightly Familiar	1
General Weighted Mean	**2.9**	**Slightly Familiar**	

Based on the data below, it implies that most respondents chose “Basic Skills” as skills that are very familiar to them and the least affecting factors since skills under basic are already common and can be encountered when using digital tools. “Intermediate Skills” as the second familiar skill. Meanwhile, “Advanced Skills” are skills that are unfamiliar and considered as factors affecting their competency level since these skills requires training and deep understanding.

Advanced skills typically need formal training, mentorship, or hands-on experience to master. However, advanced skills are necessary for higher competency levels and may motivate them to seek training opportunities and support to develop these skills. According to Feijao [13], basic digital skills are more accessible because they are encountered in everyday use of digital tools, such as using a computer for basic tasks or understanding simple software functions. These are considered foundational and are more

common across diverse populations. Similarly, a study by Bouwmans [17] highlights those basic digital skills, such as those often encountered through everyday use of digital tools, tend to be familiar to most users, while advanced digital skills require more specialized training and deeper understanding to master.

Conclusion

Most of the respondents with basic skills are familiar with using a computer keyboard for basic typing, most of the respondents with intermediate skills understand the basics of using office productivity software such as MS Office or Google Workspace, most of the respondents with advanced skills are familiar in using calendar applications (e.g., Google Calendar) to schedule.

Most BSOA respondents do not have access to a reliable internet connection for practicing computer skills outside of class, most BSOA respondents are not trying out new technological advancements and trends related to office administration to stay updated, many of the BSOA students lack of knowledge and experience to use spreadsheet software, such as Microsoft Excel or Google Sheets, for data manipulation and analysis, and most of the BSOA respondents are unfamiliar with advanced skills.

Recommendations

Implementing a comprehensive training program that balances foundational skills (typing and database management) with advanced competencies (web development, data analysis, and content creation) will significantly enhance the digital literacy of BSOA students. This approach will prepare them for the evolving demands of the modern office environment, making them more competitive in the job market. Implement a Digital Skills Enhancement Workshop to equip BSOA students with practical experience, improve their access to technological resources, and enhance their knowledge of current office administration tools and trends. Students will have better access to tools and technology, updated knowledge of office administration trends, enhanced spreadsheet skills, and improved familiarity with advanced office skills.

Conflict of Interest

The authors declare that there is no conflict of interest.

References

[1] T. Haslaman, F. Kuskaya-Mumcu, and Y. Kocak-Usluel, “Integration of ICT into the teaching-learning process: Toward a unified model,” in *EdMedia+ Innovate Learning*, Association for the Advancement of Computing in Education (AACE), 2008, pp. 2384–2389.

[2] R. Kapur, “The significance of ICT in education,” *IOSR Journal of Research and Methods*, vol. 7, no. 3, pp. 43–49, 2019.

[3] A. Soltobaev, "Analytical Report on Current and Future Needs and Goals in The Digital Skills," *UNDP*, 2020.
[4] A. Infante-Moro, J.-C. Infante-Moro, and J. Gallardo-Pérez, "The importance of ICTs for students as a competence for their future professional performance: The case of the faculty of business studies and tourism of the University of Huelva," *Journal of New Approaches in Educational Research*, vol. 8, no. 2, pp. 201–213, 2019.
[5] D. R. Hakim and D. Kurniawati, "The Effect of Competency and ICT Skills on Vocational Students' Work Readiness," *Jurnal Pendidikan Ekonomi & Bisnis,* vol 10, no. 1, pp. 15-34, 2022.
[6] N. Kalla, "A Study on Role of ICT in the Skills Development of Management Students," *Pacific Business Review International*, vol. 15, no. 8, 2023.
[7] F. Preminger, P. L. Weiss, and N. Weintraub, "Predicting occupational performance: Handwriting versus keyboarding," *The American Journal of Occupational Therapy*, vol. 58, no. 2, pp. 193–201, 2004.
[8] M. Kolhar, R. N. A. Kazi, and A. Alameen, "Effect of social media use on learning, social interactions, and sleep duration among university students," *Saudi J Biol Sci*, vol. 28, no. 4, pp. 2216–2222, 2021.
[9] P. Stephens and M. McGowan, "File Management: Student Knowledge of File Type Extensions," *Issues in Information Systems*, vol. 21, no. 3, 2020.
[10] M. Marsofiyati, "Implementation of Google Calendar As an Android-based Agenda Application," *KnE Social Sciences*, p. 511842, 2019.
[11] W. J. Rosener, "Comparative Analysis of Google Sheets and Microsoft Excel: A Discussion Case in Spreadsheet Software," *Journal of Cases on Information Technology (JCIT)*, vol. 26, no. 1, pp. 1–21, 2024.
[12] A. A. Abd Hadi, H. S. Hashim, S. Salim, N. A. Yahaya, and M. A. M. Kadri, "Student's Perception Of The Use Of Excel Spreadsheet In Financial Reporting," in *3rd International Conference on Business Studies and Education (ICBE) 28 & 29 March 2021*, 2021.
[13] C. Feijao, I. Flanagan, C. van Stolk, and S. Gunashekar, "The global digital skills gap," *Curr. Trends Future Dir.*, 2021.
[14] D. M. Grant, A. D. Malloy, and M. C. Murphy, "A comparison of student perceptions of their computer skills to their actual abilities," *Journal of Information Technology Education: Research*, vol. 8, no. 1, pp. 141–160, 2009.
[15] A. Ben Youssef, M. Dahmani, and L. Ragni, "ICT use, digital skills and students' academic performance: Exploring the digital divide," *Information*, vol. 13, no. 3, p. 129, 2022.
[16] A. L. Rodrigues, L. Cerdeira, M. de L. Machado-Taylor, and H. Alves, "Technological skills in higher education—different needs and different uses," *Educ Sci (Basel)*, vol. 11, no. 7, p. 326, 2021.
[17] M. Bouwmans, X. Lub, M. Orlowski, and T.-V. Nguyen, "Developing the digital transformation skills framework: A systematic literature review approach," *PLoS One*, vol. 19, no. 7, p. e0304127, 2024.

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