



COMPUTER LITERACY COMPETENCIES IN MICROSOFT OFFICE APPLICATIONS AMONG FIRST-YEAR COLLEGE STUDENTS AT FCIC

Jassel A. Modina¹, Maria Victoria A. Gonzaga²

¹jassel.modina@deped.gov.ph, Teacher I, JHS Teacher, Bunga National High School, Brgy. Bunga, Baybay City, Leyte

²mariavictoria.gonzaga@fcic.edu.ph, Dean of Graduate Studies, Graduate School, Franciscan College of the Immaculate Conception Inc., Baybay City, Leyte, Philippines

ABSTRACT

In this research, the computer skills of first-year students at Franciscan College of the Immaculate Conception were examined, with particular attention given to their use of Microsoft Word, Excel, and PowerPoint. It uses a descriptive-correlational quantitative approach, collecting data from 113 students through surveys and practical assessments. Findings reveal that students generally have moderate computer skills. They are confident with basic operations like formatting and managing files, but face challenges with more complex features such as using formulas and adding graphics. Students' skill levels are influenced by factors like age, gender, senior high school strand, and academic program. Students recognize the benefits of computer literacy, such as skill development and the role of technology in learning, but they also point out challenges, including limited training and access to resources. The study suggests a few practical steps: offering targeted support programs, integrating computer literacy into the curriculum, training faculty to better teach digital skills, and expanding student-centered support services.

Keywords: *Socio-Demographic Profile, Microsoft Office Application, MS Word, MS Excel, MS PowerPoint, Level of Computer Literacy Competency, Benefits, Challenges*

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INTRODUCTION

Being skilled in Microsoft Word, Excel, and PowerPoint is now a basic requirement for both school and work success. Still, these abilities are often overlooked when evaluating first-year college students. This study focuses on first-year students at the Franciscan College of the Immaculate Conception (FCIC) in Eastern Visayas, recognizing their diverse educational backgrounds and the critical role of Microsoft Office skills in both their academic and professional development. By addressing the gap between assumed and actual proficiency levels, the research aims to provide data-driven insights that can inform curriculum enhancement, faculty development, and student support services, ultimately contributing to improved academic outcomes, greater employability, and better preparation for the demands of a digital workforce.

Research Questions

The purpose of this study is to assess the computer literacy competencies of the respondents in Microsoft Office Applications. Specifically, it seeks to answer the following questions:

1. What is the socio-demographic profile of the first-year college students at FCIC in terms of:
 - 1.1. age
 - 1.2. Sex
 - 1.3. SHS strand
 - 1.4. Program
2. What is the level of computer literacy competency of the respondents in the following Microsoft Office Applications:
 - 2.1. MS Word
 - 2.2. MS Excel
 - 2.3. MS PowerPoint
3. Is there a relationship between the socio-demographic profile of the respondents and their level of computer literacy in the different Microsoft Office applications?
4. Is there a significant difference in the computer literacy competency of the students across the different Microsoft Office applications?
5. What are the benefits and challenges encountered by the respondents concerning their computer literacy competencies?

METHODOLOGY

Research Design

This study employed a quantitative, descriptive-correlational research design to assess the Microsoft Office competencies of first-year college students at the Franciscan College of the Immaculate Conception (FCIC). A quantitative method was used to measure student competencies and to explore how these skills relate to factors such as age, sex, SHS strand, and



academic program. This approach helped the researcher analyze patterns and draw meaningful conclusions based on data. The descriptive aspect captured the current state of students' skills, while the correlational component examined how these skills were related to specific demographic factors. Data were collected through surveys and practical assessments, consistent with Creswell's (2018) framework, which emphasized the importance of numerical analysis in studying human behavior and testing relationships between variables. This methodology supported the study's goal of generating data-driven insights to inform educational planning, curriculum development, and digital literacy interventions.

The Sample and Locale of the Study

The study sampled first-year college students enrolled at the Franciscan College of the Immaculate Conception (FCIC) during the 2023-2024 academic year, representing diverse Senior High School backgrounds across Eastern Visayas. Stratified random sampling was used to ensure proportional representation from all educational programs, including BSED and BSIT. From a total population of 289 students, 163 were randomly selected, and 113 ultimately participated in the practical assessments. Despite the reduced number, the final sample size was sufficient, yielding a margin of error of 7.15%, which was acceptable for the study's objectives. The study took place at Franciscan College of the Immaculate Conception (FCIC) in Baybay City, Leyte, a 77-year-old school known for its strong focus on quality education and Christian values. FCIC was an ideal location for the study because of its strong use of technology in the classroom. The campus offers well-equipped computer labs and a one-computer-per-student setup, which makes it easier to accurately assess students' Microsoft Office skills.

Table 1. Distribution of the Respondents

COURSE/PROGRAM	POPULATION (First Years)	SAMPLE SIZE
BEED	3	3
BSED	42	25
BSCRIM	111	51
BSBA	45	9
BSOA	8	1
BSIT	37	21
BSHM	43	3
TOTAL	289	113

Research Instrument

The study used a modified survey instrument adapted from the Information Systems Education Journal (2012). It included three parts: socio-demographic profiling, hands-on assessments in Microsoft Word, Excel, and PowerPoint, and a Likert-scale section on perceived benefits and challenges. Practical tests were scored using a rubric with four competency levels. The instrument was pilot tested with ten students, and reliability analysis using Cronbach's Alpha yielded a score of 0.740, confirming its consistency and validity.



Gathering of Data

The researcher obtained the necessary approvals from academic authorities and informed consent from participants before conducting the study at Franciscan College of the Immaculate Conception. Data collection involved a survey and three practical tests assessing Microsoft Word, Excel, and PowerPoint competencies. Each test, lasting one hour, evaluated specific skills through performance-based rubrics. Microsoft Word assessment focused on formatting, graphics, content creation, and file management; Excel covered data entry, formulas, validation, and file handling; PowerPoint assessed content structure, visual design, transitions, and font usage. Socio-demographic data (age, sex, SHS strand, and program) were analyzed using descriptive statistics. Relationships between demographics and competency levels were examined using Spearman Correlation, ANOVA, and t-tests, with a significance level set at 0.05.

Mean Score	Level of Computer Literacy	Interpretation
75.1-100	Extremely Competent	: Indicate that students possess an exceptional level of computer literacy skills.
50.1-75.0	High Competent	: Indicate that students exhibit a proficient competency level.
25.1-50.0	Moderately Competent	: Indicates that students possess a basic level of competency.
1.00-25.0	Not Competent	: Indicate that students have below basic competency level.

To explore differences in computer literacy across academic programs, the researcher computed the mean and standard deviation of competency scores and used ANOVA to identify significant variations. Perceptions of benefits and challenges related to computer literacy were measured using a Likert-type scale and analyzed through weighted means. Responses were categorized to reflect varying levels of perceived benefit and difficulty, offering insight into students' experiences and attitudes toward their computer literacy skills. For the Benefits section, the weighted mean scores were calculated for each item and categorized as follows:

Weighted Mean	Description	Interpretation
4.00-5.00	Highly beneficial	Indicates a significant positive impact or advantage.
3.00-3.99	Beneficial	Suggests a moderate level of positive impact or advantage.
2.00-2.99	Slightly beneficial	Reflects a minimal or low level of positive impact or advantage.
1.00-1.99	Never	Implies no perceived benefit or advantage.

For the Challenges section, the weighted mean scores were calculated for each item and categorized as follows:

Weighted Mean	Description	Interpretation
4.00-5.00	Very Challenging	Indicates a high level of difficulty or significant challenge.
3.00-3.99	Challenging	Represents a moderate level of difficulty or a considerable challenge.
2.00-2.99	Easy	Suggests a lower level of difficulty or minimal challenge.
1.00-1.99	Very Easy	Reflects negligible difficulty or almost no challenge.

RESULTS AND DISCUSSION

This section discusses the study’s key findings in relation to its research objectives. It includes the socio-demographic profiles of the respondents, their competency levels in Microsoft Word, Excel, and PowerPoint, correlations between socio-demographic factors and computer literacy, significant differences across academic programs, and students’ perceived benefits and challenges related to their computer literacy skills.

Socio-Demographic Profile

Age: The majority of respondents (95.6%) were aged 18-24, reflecting the typical age of first-year college students, likely familiar with digital tools. A small portion of the respondents, just 4.4% were between the ages of 25 and 34, typically considered non-traditional students. This age distribution suggests that younger students, having greater exposure to technology, may possess stronger competencies in Microsoft Office applications.

Sex: The study showed that 59.3% of respondents were male and 40.7% were female. This distribution suggests potential differences in computer literacy, as prior studies indicate males often perform better in technology-related tasks and are more likely to enroll in technical courses. Still, the gap between male and female students in digital literacy is closing, which shows how essential these skills have become for everyone.

Senior High School (SHS) Strand: The findings showed that most respondents (30.3%) came from the HUMSS strand, followed by TVL-ICT and GAS, each with 10.7%. Students from technical strands such as TVL-ICT were likely more exposed to technology, which may have helped them develop stronger Microsoft Office skills. In contrast, students from non-technical strands, such as Agri-Fishery (2.5%), may have had limited experience with advanced software. This aligns with earlier studies showing that students from technical strands often do better in computer-based tasks.

Table 2. Frequency and Percentage Distribution of the Demographic Profile of the First-Year College Students

Attributes	Frequency	Percentage (%)
Age (in years)		
18-24	108	95.6
25-34	5	4.4
Total	113	100
Sex		
Male	67	59.3
Female	46	40.7
Total	113	100
SHS Strand		
HUMMS	37	30.3
TVL: ICT	13	10.7
GAS	13	10.7
TVL: Industrial A	9	7.4
TVL: Home E	8	6.6
ABM	7	5.7
STEM	5	4.1
TVL: Agri-Fishery	3	2.5
NO STRAND	18	14.8
Total	113	100
Program		
BSCRIM	51	41.8
BSED	25	20.5
BSIT	21	17.2
BSBA	9	7.4
BEED	3	2.5
BSHM	3	2.5
BSOA	1	.8
Total	113	100

Programs: Most of the students, about 41.8% were taking BS Criminology, a program where having basic Microsoft Office skills remains important for completing academic work. Meanwhile, BSIT students (17.2%) likely demonstrated higher proficiency due to their extensive exposure to digital tools in their program. This supports previous research suggesting that students in technology-focused programs generally develop stronger digital literacy and software competencies.

Level of Computer Literacy Competencies

This section presents the findings for the second objective, which assessed the computer literacy levels of first-year students at FCIC in Microsoft Word, Excel, and PowerPoint. The

results, detailed in Tables 3.1 to 3.3, show the students' competencies in these three essential applications.

Table 3.1 Microsoft Word Competency Level of the First Year College Students

Indicator	Mean Score	Competency Level		
1. Font, Size, and Style	51.50	Highly Competent		
2. Paragraph Alignment	45.40	Moderately Competent		
3. Save and Retrieve Files	45.40	Moderately Competent		
4. Line and Paragraph Spacing	37.00	Moderately Competent		
5. Text Input and Editing	35.90	Moderately Competent		
6. Overall Document Coherent	34.60	Moderately Competent		
7. Inserting and Formatting Graphics	23.90	Not Competent		
OVERALL	39.10	Moderately Competent		
Legend:	75.1-100	Extremely Competent	25.1-50.0	Moderately Competent
	50.1-75.0	High Competent	1.00-25.0	Not Competent

Table 3.2 Microsoft Excel Competency Level of the First Year College Students

Indicator	Mean Score	Competency Level		
1. Accurate Data Entry	46.68	Moderately Competent		
2. Save and Retrieve Files	44.52	Moderately Competent		
3. Consistent Formatting	44.04	Moderately Competent		
4. Data Validation	43.56	Moderately Competent		
5. Error Checking	42.84	Moderately Competent		
6. Function Application	38.30	Moderately Competent		
7. Formula Usage	35.31	Moderately Competent		
OVERALL	42.18	Moderately Competent		
Legend:	75.1-100	Extremely Competent	25.1-50.0	Moderately Competent
	50.1-75.0	High Competent	1.00-25.0	Not Competent

Table 3.3 Microsoft PowerPoint Competency Level of the First Year College Students

Indicator	Mean Score	Competency Level		
1. Readability of text	42.36	Moderately Competent		
2. Clear and Relevant Content	41.88	Moderately Competent		
3. Slide Design and Layout	41.64	Moderately Competent		
4. Transitions and Animations	41.40	Moderately Competent		
5. Consistent Font Usage	40.20	Moderately Competent		
6. Effective Use of Visuals	35.56	Moderately Competent		
OVERALL	40.51	Moderately Competent		
Legend:	75.1-100	Extremely Competent	25.1-50.0	Moderately Competent
	50.1-75.0	High Competent	1.00-25.0	Not Competent

Relationship between the Socio-Demographic Profile and Computer Literacy Level of different Competencies

This part of the study focuses on the third objective: exploring how students' socio-demographic backgrounds, such as age, sex, SHS strand, and academic program, relate to their computer literacy, as measured by Spearman Correlation. The results, summarized in Table 4, indicate whether these factors significantly influenced students' competencies in Microsoft Office applications.

Table 4. Relationship between socio-demographic profile and the level of computer competency of the respondents (n=113)

Socio-demographic Profile	MS Office Application Competencies	Spearman Correlation Value	P-value	Significance
Age	MS Word	0.065	0.524	Not Significant
	MS Excel	0.069	0.487	Not Significant
	MS PowerPoint	0.104	0.266	Not Significant
Sex	MS Word	-0.087	0.361	Not Significant
	MS Excel	-0.105	0.275	Not Significant
	MS PowerPoint	-0.102	0.283	Not Significant
SHS Strand	MS Word	0.172	0.069	Not Significant
	MS Excel	0.175	0.063	Not Significant
	MS PowerPoint	0.154	0.104	Not Significant
Program	MS Word	0.439	<.001	highly Significant
	MS Excel	0.186	0.049	Significant
	MS PowerPoint	0.284	0.002	Significant

Difference between the Computer Literacy in MS Office Applications and Programs

This section explores the fourth objective by comparing the computer literacy levels of first-year FCIC students in Microsoft Word, Excel, and PowerPoint. Using mean, standard deviation, and ANOVA, the analysis explores variations across academic programs, with the results summarized in Table 5.

Table 5. The difference between the Computer Literacy in Microsoft Office Applications and among Programs

		Sum of Squares	df	Mean Square	F	Sig.
MS Word Competency	Between Groups	10.906	5	2.181	10.153	<.001
	Within Groups	22.772	106	0.215		
	Total	33.679	111			
MS Excel Competency	Between Groups	37.320	5	7.464	10.001	<.001
	Within Groups	79.109	106	0.746		
	Total	116.429	111			
MS PowerPoint Competency	Between Groups	44.812	5	8.962	14.465	<.001
	Within Groups	65.679	106	0.620		
	Total	110.491	111			

The results revealed significant differences in Microsoft Office competencies across academic programs. BSIT students consistently demonstrated higher proficiency in MS Word, Excel, and PowerPoint, supporting the findings of Martínez and López (2021) and Wang and Xu (2019), who emphasized the role of IT programs in strengthening digital skills. In contrast, BSCRIM students showed significantly lower competency, particularly in MS Word ($p < 0.001$) and Excel ($p < 0.001$), reflecting limited exposure to productivity software, as noted by Garcia and Rodelas (2019) and Santos et al. (2020). BSHM students also performed well, especially in MS Word and PowerPoint, aligning with Kim and Jang's (2018) observation that hospitality programs develop administrative and presentation skills. Similarly, BSED students showed higher PowerPoint competency than BSCRIM students, consistent with Chen and Zhang (2019), who highlighted frequent use of presentation tools in education programs. Mean scores reflected moderate proficiency with scores of 2.50 for MS Word, 2.69 for MS Excel, and 2.62 for MS PowerPoint. The results align with Scherer et al. (2020) and Li and Chen (2018), who emphasize the importance of integrating digital literacy into all disciplines to better prepare students for today's academic and workplace environments.

Benefits and challenges encountered by the respondents in relation to computer literacy competencies

This section addresses the fifth objective, which explores the benefits and challenges experienced by first-year students at FCIC in relation to their computer literacy competencies.



Tables 6.1 and 6.2 reflect students' perceptions, highlighting both the benefits and challenges they experience when using Microsoft Office in their academic tasks.

Table 6.1 Benefits encountered by the respondents in relation to computer literacy competencies

Indicators	Weighted Mean	Benefits
B1. I think technological advancements have enhanced the way computer literacy is taught in schools, making instruction more accessible and relevant.	3.43	Beneficial
B2. I think there is a growing need for more computer literacy courses to equip individuals with the skills necessary to thrive in today's digital environment.	3.43	Beneficial
B3. My work experience has helped improve my computer skills and given me a valuable advantage in the modern digital age.	3.31	Beneficial
B4. I believe my age has influenced my level of technological skills.	3.20	Beneficial
B5. I stay updated on computer literacy skills because the demands of the digital world are always changing.	3.17	Beneficial
Overall	3.31	Beneficial

Legend:

<i>Weighted Mean</i>	<i>Description/Interpretation</i>
<i>4.00-5.00</i>	<i>Highly beneficial</i>
<i>3.00-3.99</i>	<i>Beneficial</i>
<i>2.00-2.99</i>	<i>Slightly beneficial</i>
<i>1.00-1.99</i>	<i>Never</i>

Table 6.1 shows that respondents rated the benefits of computer literacy as beneficial, with an overall weighted mean of 3.31. The highest-rated benefits included technological advancements and the availability of computer literacy courses (3.43), though these were not viewed as highly transformative, reflecting similar findings by Chen and Zhang (2019). Work experience (3.31) was also seen as beneficial, supporting Grinberg's (2019) observation that practical experience enhances digital skills but needs to be paired with formal education. Age (3.20) was considered somewhat beneficial, consistent with Wilson and Gertz (2018), who noted that younger generations are increasingly adaptable to technology. Staying updated on digital skills received the lowest rating (3.17), aligning with McDonough et al. (2020), who emphasized that ongoing learning requires structured support to be effective.

In terms of challenges, Table 6.2 reveals that respondents generally found these easy, with an overall weighted mean of 2.89. Most challenges were rated as manageable, with only one identified as challenging, suggesting that students faced minimal barriers in developing their computer literacy competencies.



Table 6.2 Challenges encountered by the respondents in relation to computer literacy competencies

Indicators	Weighted Mean	Challenges
C1. My computer literacy skill is affected by how my teacher teaches me.	3.10	Challenging
C2. Due to financial constraints, I am unable to further develop my computer literacy skills outside of school.	2.94	Easy
C3. My ability to improve in computer literacy is limited due to the lack of a computer laboratory at school.	2.89	Easy
C4. My high school education did not provide me with the needed computer skills.	2.81	Easy
C5. I do not have enough time on my courses to learn all the necessary computer skills.	2.69	Easy
Overall	2.89	Easy

Legend:

Weighted Mean	Description/Interpretation
4.00-5.00	Very Challenging
3.00-3.99	Challenging
2.00-2.99	Easy
1.00-1.99	Very Easy

The analysis identified teaching methods as the most significant challenge (mean = 3.10), highlighting the critical role of educators in developing students' digital skills, as supported by Falloon (2020). Financial constraints (mean = 2.94) and limited access to computer laboratories (mean = 2.89) were also noted as challenges. These findings reflect the ongoing impact of the digital divide, as similarly reported by Scherer and Siddiq (2019), Domínguez Castillo et al. (2019), and Timotheou et al. (2023). Students further cited gaps in high school computer literacy preparation (mean = 2.81), consistent with Indrinal (2022) and Delima et al. (2022), and limited course time for digital skill development (mean = 2.69), as noted by Mudra (2020). Although students viewed most challenges as manageable, the findings highlight the need for more effective teaching strategies, improved access to resources, and more structured learning to fully support the development of digital literacy.

CONCLUSION

Summary of Findings

This study assessed the computer literacy of first-year college students at FCIC, focusing on their proficiency in Microsoft Word, Excel, and PowerPoint, as well as the influence of socio-demographic factors. Most respondents were aged 18–24, with more males than females. The majority were from the HUMSS strand, and BS Criminology had the highest enrollment. Overall, students showed moderate proficiency, performing well in basic tasks but struggling with advanced features. No significant relationship was found between age or sex and competency levels, but BSIT students outperformed others, particularly BSCRIM students, likely due to their technical training. Students acknowledged technological advancements and work experience as beneficial. However, limited lab access and ineffective teaching methods were identified as the most significant barriers hindering their digital skill development.

Conclusion

The study concludes that first-year college students at FCIC demonstrated moderate proficiency in Microsoft Office applications, with noticeable differences across academic programs and socio-demographic groups. These findings highlight the need for targeted interventions to address skill gaps, emphasizing the integration of computer literacy into the curriculum, faculty development, and enhanced student support services to strengthen digital literacy across all programs.

Recommendations

Based on the conclusions, the following recommendations are proposed to enhance computer literacy competencies at FCIC:

1. Revise the curriculum to include more structured computer literacy instruction, particularly in areas where students demonstrated weaknesses, such as advanced Excel functions (e.g., formulas) and graphic design features in Word. These topics should be incorporated across all programs, with practical, hands-on lessons to ensure students gain proficiency in both basic and advanced digital skills.
2. Implement specific training programs or workshops for faculty focused on integrating technology into their teaching. These could include sessions on how to effectively teach MS Office applications, design digital assessments, and provide technology-driven learning experiences. Providing access to resources, such as instructional guides and software tools, will help faculty build the digital competence needed to support student learning.
3. Establish comprehensive support services tailored to FCIC's unique challenges, including a peer tutoring program and a dedicated technology help desk. These services should address students' needs in both fundamental and advanced computer skills, providing timely assistance and fostering a collaborative learning environment that supports diverse learning styles.
4. Adopt the action plan being proposed for addressing the digital literacy gaps among the first-year college students. The plan involves collaboration among faculty, administration, and student services, with clear objectives, timelines, and measurable outcomes to enhance first-year students' computer literacy at FCIC.

5. Conduct additional research with larger, more diverse student samples to validate and expand upon the findings of this study. This research should explore other factors that may influence digital literacy, such as access to technology outside of school and the role of extracurricular activities in developing computer skills.



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