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Research Article

Information Technology Students' Insights from Their On-The-Job Training: Input to an Internship Manual

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ABSTRACT

This quantitative research utilizing the descriptive-survey design assessed the on-the-job training performance of the Bachelor of Science in Information Technology (BSIT) students. Ninety-four students have completed their on-the-job training in school year 2017-2018 and have participated in the study. The data were collected using a survey questionnaire and descriptively treated using frequency, percentage, and weighted mean. In addition, the qualitative part of the post-evaluation survey form was treated using thematic analysis. The study revealed the following: the partner-company organization is related to the student's specialization as they utilized IT-based software and assigned tasks related to information technology. Student trainees were able to develop their communication skills while mobile application development skills were identified as the least. OJT students also identified Professional Ethics and Values Education for IT, Multimedia Systems, Operating Systems as well as Oral Communication, Fundamentals of Grammar, and Presentation Skills and Technical Writing as the most relevant subject courses; and they perceived doing work not related to information technology, extended OJT, overtime, and certain provision of existing manual as problems. The researchers concluded that the BSIT Internship manual when implemented can effectively improve their field work performance

Keywords: *Internship manual, IT Skills, IT Utilization, On-the-Job Training*

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Introduction

It is given that almost all industries worldwide operate with the use of various forms of technologies making the Bachelor of Science in Information Technology a thriving academic program in the 21st century. Graduates of this course have a distinct advantage because they possess the necessary competencies that the world of work needs.

The on-the-job training/practicum/internship of BSIT students is the culminating course of their program. It is their last course before graduation. The on-the-job training involves teaching the skills, knowledge, and competencies that are needed for employees to perform a specific job within the workplace and work environment (Sepasgozar, 2022). It is their testing ground whether what they learned from the classroom could be put into the actual and how well they could be applied.

Saint Louis College, City of San Fernando, La Union has offered a Bachelor of Science in Information Technology (BSIT) program since 2004 granted by the Commission on Higher Education (CHED) through Government Recognition No. 055 Series of 2004. This program is under the umbrella of the College of Arts and Sciences, Teacher Education and Information Technology (CASTEIT). The Bachelor of Science in Information Technology (BSIT) is a four-year degree program designed to prepare future IT professionals. The program combines concepts, theories, principles, and applications of Information Technology in the industry to equip them with the necessary knowledge, skills, attitudes, and values (BSIT PLO, 2018). Herewith, the College has seen the importance of on-the-job training/practicum/internship in the BSIT program as stipulated also in their IT Practicum syllabus that the off-campus training is gained by rendering at least 486-hour office work; preferably IT-related work, in actual government and/or private office (BSIT Syllabus, 2018).

However, despite its adherence to the standards and guidelines of the Commission and of national laws, the BSIT program of the College has no institutional on-the-job/practicum/internship manual that guides the students in the conduct of their off-campus activities. On-the-job orientation discussed the predeployment requirements that include seminar certificates, endorsement letter, parents' waiver, and memorandum of agreement.

In addition, course requirements such as the total number of hours, weekly reports, monthly reports, terminal reports, and rules and policies of the on-the-job training are also discussed in the orientation. Though on-the-job orientation is conducted before their deployment in their respective assignments, it is still inadequate because there are rules and regulations that students need to observe in the conduct of their on-the-job training/practicum/internship hence, this study was conceptualized.

Statement of the Problem

This study aimed to assess the on-the-job training performance of the Bachelor of Science in Information Technology (BSIT) students during the School Year 2018 – 2019 as input to an Internship Manual for Bachelor of Science in Information Technology of Saint Louis College, City of San Fernando, La Union.

Specifically, it sought to answer the following questions:

1. What is the perception of the respondents on the profile of the partner companies along
   (a) Organization Operations; and
   (b) Organization Resources?
2. What is the level of Information Technology utilization of the company in terms of
   (a) PC-based Software; and
   (b) IT-based Assigned Tasks?
3. What is the level of Information Technology skills developed by the students in their OJT in terms of (a) Programming Skills; (b) Program Skills/System Development; (c) Mobile Application Development Skills; (d) System Analysis Skills; (e) System Design Skills; (f) Design and Animation Skills; (g) Computer Networking Skills; (h) PC/Hardware Troubleshooting Skills; (i) Interpersonal Skills; (j) Communication Skills; (k) Typing/Encoding Skills; and (l) Photography Skills?
4. What is the level of relevance of on-the-job training in terms of
   (a) Major Courses; and
   (b) Minor Courses?

5. What are the problems encountered by the students in their on-the-job training?
6. What validated Internship Manual for Bachelor of Science in Information Technology could be proposed?

Methods

Research Design

This study utilized the descriptive survey design. This method is a purposive process of gathering, analyzing, classifying, and tabulating data about prevailing conditions, practices, beliefs, processes, trends, and cause-and-effect relationships and making adequate and accurate interpretations about such data (Leavy, 2023). This method, therefore, is best fitted in the study because it involves describing, analyzing, and interpreting conditions that exist. The descriptive survey method was utilized to determine the post-on-the-job training performance of the Bachelor of Science in Information Technology (BSIT) students.

Further, thematic analysis was also employed in this study, particularly in answering the problems encountered by the students in their on-the-job training. Thematic analysis describes the experiences of on-the-job students in words instead of numbers or measures.

Sources of Data

Locale and Population of the Study

The population of this study is composed of fourth-year students enrolled in IT Practicum (Practicum) in the program of Bachelor of Science in Information Technology (BSIT) of Saint Louis College, City of San Fernando, La Union for the First Semester, School Year 2018 – 2019.

There were a total of 94 students enrolled in the IT Pract (Practicum Course) during the SY 2018-2019. The enrollees were grouped into four (4) sections with a class size of twenty-three (23) and twenty-four (24) per group.

Instrumentation and Data Collection

The main gathering tool utilized in this study is the Post-OJT Survey Form of the Bachelor of Science in Information Technology Program. The evaluation form focused on the perception of students in their assigned company, industry, or agency. The evaluation form also stressed the level of Information Technology utilization of the company; the level of Information Technology skills developed by the students; the usefulness of their major and minor subjects in their training; and other preliminaries before and after their deployment.

The Post-OJT Survey Form was given to the students after their internship program in compliance with their IT practicum course. The filled-up Post-OJT Survey Form has to be submitted to the OJT coordinator since it is an integral part of their terminal report which is a major requirement in the IT Practicum course. The Post-OJT Survey Forms were collected to check the performance of the students in their respective practicum as the basis for their grades in the said course. All of the on-the-job training students became part of the study thus, a 100% retrieval rate.

Tools for Data Analysis

The data gathered were processed utilizing the following statistical tools. For problem 1 which dealt with the perception of the students, and problem 2 which focused on the level of Information Technology utilization of the company, frequency count and percentage were utilized. For problem 3 which focused on the level of Information Technology skills developed by the students, weighted mean and ranking were used. Further, problem 4 which dealt with the level of relevance of on-the-job training, frequency count, percentage, and rating scale were utilized. Problem 5 which dealt with the problems encountered by the students in their on-the-job training, thematic analysis was used.

Data Categorization

To interpret the level of Information Technology utilization of the company in terms of PC-Based Software and IT-Based Assigned Tasks, a five-point scale was used as follows:

Point	Frequency Range	Descriptive Equivalence
5	81% - 100%	Very Highly Used
4	61% – 80%	Highly Used
3	41% - 60%	Moderately Used
2	21% – 40%	Seldom Used
1	0% - 20%	Rarely or Not at all

To interpret the level of Information Technology skills developed by the students, a three-point Likert scale was used as follows:

Point	Scale	Descriptive Equivalence
3	2.51 – 3.00	Highly Developed
2	1.51 – 2.50	Moderately Developed
1	1.00 – 1.50	Poorly Developed

To interpret the Level of Relevance of On-the-Job training to their Major and Minor Subject Course, a five-point scale was used as follows:

Point	Frequency Range	Descriptive Equivalence
5	81% - 100%	Very Highly Relevant
4	61% – 80%	Highly Relevant
3	41% - 60%	Moderately Relevant
2	21% – 40%	Slightly Relevant
1	0% - 20%	Rarely or Not at all

Formulation and Validation of BSIT Internship Manual

The output of this study was a validated internship manual for the Bachelor of Science in Information Technology (BSIT) based on the perceived experiences of students in their practicum. The formulated manual contains the following: rationale, introduction, general and specific objectives, definition of terms, and coverage.

The manual was validated by experts in curriculum and policy-making particularly the Vice President for Academic Affairs, Academic Dean, Industry OJT Supervisor, and the Research Management Officer.

Ethical Considerations

To establish and safeguard ethics in conducting this research, the researcher strictly observed the following:

The respondents' names were not mentioned in any part of this research. Proper documentation sourcing and referencing of materials were done to ensure and prompt copyright laws. Research protocols were rigorously observed in the conduct of this study such as the use of proper referencing, and the use of acceptable grammar checker and anti-plagiarism software to help ensure accuracy in language and to avoid any infringement on intellectual property rights.

Herewith, the study was subject to Grammarly for grammar checking, punctuation, and spelling. The result of Grammarly was 82% which means that the study was unique and original. Further, the study was also subjected to PlagScan to certify its authenticity. The result of the PlagScan is 1.0% which means that the plagiarism is at an acceptable level.

Result and Discussion

Respondents' Perception on the Profile of the Partner-Companies/Agencies

Organization Operations

Table 1 presents the perception of on-the-job training students on the company's organization operations. The table shows that the majority or 92 (97.87%) of companies exposed their on-the-job training students to the operations of their offices. This is to familiarize the on-the-job training students with the basic functions and procedures of the workplace.

This also means that the on-the-job training students are accepted not only as trainees but as part of the organization as a whole. As such, an industry OJT supervisor is assigned to the trainee to provide the necessary information about the cooperating agency/industry's vision, mission, goals and objectives, organizational structures, and others.

Table 1. Perception of On-the-Job Training Students along Company's Organization Operations (Multiple Responses)

	Organization Operation	(f)	%
a.	Is the company/institution/agency private?	36	38.30
b.	Is the company/institution/agency engaged in software development for commercial purposes?	34	36.17

	Organization Operation	(f)	%
c.	Did you also work in other offices/sections/departments within the same company/institution/agency?	74	78.72
d.	Does the company give the allowance to Practicum trainees?	9	9.57
e.	Were you exposed well to the operations of the offices you worked with?	92	97.87
f.	Did you learn some transactions that are related to IT field?	84	89.36
g.	Does the organization provide you with the opportunity to enhance your skills?	83	88.30
h.	Is the office engaged in software (program or system) development for the office only?	42	44.68
i.	Is there a need to develop software even for office use only?	62	65.96
j.	Do you want to seek employment with the company when you finish your course?	57	60.64

Further, companies also let their on-the-job training students learn some transactions that are related to their field – Information Technology with a frequency of 84 (89.36%). This means that the companies provided the appropriate and expected work to their student trainees. This also means that the on-the-job training students' specialization is needed in the workplace. Herewith, the on-the-job training of Information Technology students responds to the goals of their programs which are to address various needs involving the selection, development, application, integration, and management of computing technologies within an organization (CMO 25 s. 2015).

The Table 1 also reveals that companies provide their on-the-job training students the opportunity to enhance their skills with a frequency of 83 (88.30%). This means that the companies are providing opportunities to their on-the-job training students to improve, advance, and reveal their capabilities. This also means that their place of deployment develops the needed skills in their field of expertise. Through the guidance of the assigned industry OJT supervisor, the trainees apply, enhance, and hone their knowledge, skills, attitudes, and values in the corporate environment.

Organization Resources

Table 2 reveals the level of perception of on-the-job training students along the company's organization resources. From the table, all or 94 (100.00%) of the companies have internet access using computer terminals and other devices. This means that the companies can send e-mails, download files, and do videoconferencing and presentations using this connectivity. Internet connectivity also provides them fast and reliable access to different platforms useful in the daily transactions of the office. Further, Mohammad et.al. (2019) in their study believes that an "internet-dependent" workplace contributes to employee work satisfaction. This finding also applies to student trainees deployed in their respective workstations.

Table 2. Perception of On-the-Job Training Students along Company's Organization Resources (Multiple Responses)

	Organization Resources	(f)	%
a.	Are the computers you worked with the PC type?	60	63.83
b.	Are the PC branded?	88	93.62
c.	Does the office still make use of the old PC's like the "Pentium 3" PCs?	4	4.26
d.	Does the office still make use of the old CRT Monitors	0	0.00
e.	Are the computers in the office connected to a network?	90	95.74
f.	Is there an Internet connection for any of the company's computers?	94	100.00
g.	Does the office still make use of a typewriter?	0	0.00
h.	Does the office still make use filing cabinets?	91	96.81

The majority or 91 (96.81%) of the companies still make use of filing cabinets. This means that aside from the electronic or database management system stored in the computer they also keep and store their important documents and archival records using office fixtures or furniture. This is to preserve and safeguard the accuracy, integrity, and confidentiality of organizational records. This corroborates the studies of Cabauatan et al. (2016) and Chandler (2022) that records must be handled with utmost accuracy, integrity, confidentiality, and orderliness.

More so, companies also have computers in the office connected to the network as shown in its frequency of 90 (95.74%). This means that the company has its local area network (LAN) which is utilized within the company's premises. A local area network (LAN) is a network that connects computers and devices in a limited geographical area such as a home, school, computer laboratory, office building, or closely positioned group of buildings (Makeri et al., 2021). This network is access routers that connect the internet and the user intended for the needs of the organization.

Level of Information Technology Utilization of the Company

Company's PC-Based Software

Table 3 presents the level of information technology utilization of the company along with PC-based software. Among the PC-based software, the majority or 69 (73.40%) of companies highly use Microsoft Office. This means that the companies are using productivity software that could help in the development of operations in their offices. This also means that they use practical applications in their daily office transactions such as Microsoft Word, Microsoft Excel, and Microsoft PowerPoint to create professional-looking documents, charts, calculations, reports, and presentations at high speed and accuracy.

Another PC-based software that the companies are highly using is the Windows 10 and Windows 7 operating systems with a frequency of 57 (60.64%) apiece. This means that the companies are using updated and compatible versions of operating systems that could help them in the daily operations of their offices. This also means that they are using software that performs all the basic tasks such as file management, memory management, and process management. This software helps eliminate vulnerabilities thus, creating a safer computing environment for users or companies alike (Morris et al., 2020).

More so, Google Chrome is also being moderately utilized by companies in their offices as shown in its frequency of 51 (54.26%). This means that the companies are using the most stable, fast, and reliable web browsers. This also means that the companies use certain and secured applications to access and view websites helpful in their web search. Through the Google Chrome browser, companies have access to assistive tools that can be useful learning supports for their users in the office such as scanning handwritten notes, changing file download destinations, drag and dropping images and media among others.

Table 3. Level of Information Technology Utilization of the Company along PC-Based Software (Multiple Responses)

PC-Based Software	(f)	%	Descriptive Equivalence
7Zip	3	3.19	Rarely Used
Adobe Illustrator	12	12.77	Rarely Used
Adobe Photoshop	27	28.72	Seldom Used
Adobe Premier	3	3.19	Rarely Used
Atom	9	9.57	Rarely Used
Composer PHP	3	3.19	Rarely Used
Django	1	1.06	Rarely Used
Filmora	6	6.38	Rarely Used
GClapp	1	1.06	Rarely Used

PC-Based Software	(f)	%	Descriptive Equivalence
Git Bash	6	6.38	Rarely Used
Google Chrome	51	54.26	Moderately Used
Google Map	3	3.19	Rarely Used
Internet Explorer	12	12.77	Rarely Used
JCreator	3	3.19	Rarely Used
Laravel	3	3.19	Rarely Used
Linux OS	9	9.57	Rarely Used
Macintosh	1	1.06	Rarely Used
Macromedia Dreamweaver	3	3.19	Rarely Used
Macromedia Fireworks	12	12.77	Rarely Used
Microsoft Edge	3	3.19	Rarely Used
Microsoft Office	69	73.4	Highly Used
Microsoft Visio	3	3.19	Rarely Used
Mozilla Firefox	3	3.19	Rarely Used
Navicat MySQL	15	15.96	Rarely Used
Node.js	3	3.19	Rarely Used
Notepad++	3	3.19	Rarely Used
Open Office	24	25.53	Seldom Used
Oracle Virtual Box	9	9.57	Rarely Used
Plate Unit	1	1.06	Rarely Used
Printer Resetter	12	12.77	Rarely Used
Skype	6	6.38	Rarely Used
Source Tree	1	1.06	Rarely Used
SQL Server	3	3.19	Rarely Used
Sublime Text	15	15.96	Rarely Used
Team Viewer	3	3.19	Rarely Used
Ubuntu Server	12	12.77	Rarely Used
Visual Studio Code	18	19.15	Rarely Used
Windows 10	57	60.64	Highly Used
Windows 7	57	60.64	Highly Used
Windows 8	12	12.77	Rarely Used
Windows Server	12	12.77	Rarely Used
Windows XP	6	6.38	Rarely Used
XAMPP	27	28.72	Seldom Used

Company's IT-Based Assigned Tasks

Table 4 presents the level of information technology utilization of the company along with IT-based assigned tasks. From the table, encoding/printing documents is identified as assigned tasks given to their on-the-job training students with a frequency of 84 (89.36%) interpreted as very highly used. This means that the companies assign tasks according to the student trainees' field of specialization. This also means that student trainees frequently use computers in their cooperating agency. Nayoyos-Refugia, J. M. (2024) in her study reveals companies offer opportunities for learning and skill development and place a high priority on retention to ensure high job satisfaction.

Sorting/filing of documents is also identified as IT-based assigned tasks to the on-the-job training students with a frequency of 57 (60.64%) which is interpreted as highly used. This means that the companies communicate to student trainees the basic responsibilities of organizing and managing official forms and documents in their offices. This also means that they arrange, categorize, and separate documents by type. Sorting/filing of documents in the office are both practiced in traditional and

electronic file management by on-the-job training students. With this, they assist employees of the organization to access important information easily.

Further, the company also assigns systems development as a task to the on-the-job training students with a frequency of 33 (35.11%). This means that the companies assign tasks for the creation of systems needed for the operations of the office. Systems development is the art and science of creating man-made systems to satisfy predetermined needs (Makeri et al., 2021). This means that the on-the-job training students were asked to create designs to provide structured programs that will be utilized in the future by the companies they are serving. Herewith, they are tasked to develop customized systems fit to the needs of the organization which culminates their stay in their cooperating agencies. Indeed, on-the-job training of students provides them the chance to translate what they have learned from the classroom.

Table 4. Level of Information Technology Utilization of the Company along IT-Based Assigned Tasks (Multiple Responses)

IT-Based Assigned Task	(f)	%	Descriptive Equivalence
Company System Manipulation	21	22.34	Seldom Used
Database Development	6	6.38	Rarely Used
Email Messaging	3	3.19	Rarely Used
Encoding/Printing Documents	84	89.36	Very Highly Used
Fieldworks	12	12.77	Rarely Used
Front Desk/Assisting Clients	18	19.15	Rarely Used
Generating Reports	15	15.96	Rarely Used
Graphics Designing	27	28.72	Seldom Used
Hardware Installation	12	12.77	Rarely Used
Network Setup	9	9.57	Rarely Used
Network Troubleshooting	18	19.15	Rarely Used
PC Assembly	12	12.77	Rarely Used
PC Desktop/Laptop Repair	21	22.34	Seldom Used
Photography	6	6.38	Rarely Used
Printer Troubleshooting	3	3.19	Rarely Used
Reformatting Computers	9	9.57	Rarely Used
Routing Communications	12	12.77	Rarely Used
Scanning/Photocopying	18	19.15	Rarely Used
Setup Audio/Visual Equipment's	3	3.19	Rarely Used
Software Installation	12	12.77	Rarely Used
Sorting/Filling of Documents	57	60.64	Highly Used
Systems Development	33	35.11	Moderately Used
Uploading Documents	6	6.38	Rarely Used
Video Editing	15	15.96	Rarely Used
Videography	3	3.19	Rarely Used

Level of Information Technology Skills Developed by Students in their On-the-Job Training

Skills Developed by Students

Table 5 presents the level of information technology skills developed by the students in their on-the-job training. The table shows an overall mean of 2.00 with a descriptive equivalent of moderately developed. This means that the students developed to an average extent the information technology skills in their on-the-job training. This also means that the student trainees acquired the necessary skills and competencies in the activities provided by their supervisors during their field exposure. This corresponds to the findings of

Pamplona et al. (2023) that the students were able to utilize the theoretical and technical proficiencies they learned throughout their academic training.

Table 5. Level of Information Technology Skills Developed by Students in their OJT

IT Skills Developed	Mean	DER	Rank
Web Programming Skills	1.67	MD	8.5
Programming Skills/System Development	1.67	MD	8.5
System Analysis Skills	1.62	PD	10
System Design Skills	1.34	PD	11
Graphics Design and Animation Skills	2.00	MD	6
Computer Networking Skills	2.05	MD	5
Interpersonal Skills	2.66	HD	3
Communication Skills	2.87	HD	1
Typing/Encoding Skills	2.71	HD	2
Photography Skills	1.80	MD	7
Mobile Application Development Skills	1.18	PD	12
PC Troubleshooting Skills	2.37	HD	4
Grand Mean	**2.00**	**MD**	

Legend: PD – Poorly Developed; MD – Moderately Developed; HD – Highly Developed

From the table, communication skills ranked first with a mean of 2.87, interpreted as highly developed. Cabauatan and Valdez (2018) stated in their study that communication skill is the ability to communicate effectively and efficiently with colleagues and employers. Communication includes technical writing, presentation and negotiation, and numeracy (CMO 25, s. 2015). Communication as the basic medium of transmitting knowledge is attained by the student trainees during their fieldwork. This means that they were able to execute properly their ideas, perspectives, and perceptions using appropriate language and speech. This also means that they were able to transmit information to their supervisors and workers alike in their workplace accurately, clearly, and as intended.

Communication skills are also underscored in the studies of Zamar et al. (2020) wherein they stated that proficiency in this skill prepares them to be more globalized and competitive. These findings capture the graduate attributes of the Bachelor of Science in Information Technology which is for them to communicate effectively with a wide range of audiences as envisioned in the CMO 25 s. 2015.

On the contrary, mobile application development skills rank last with a mean of 1.18, interpreted as poorly developed. Mobile application development skills are somehow developed by on-the-job training students in their respective field areas. This means that their cooperating agencies commissioned them to do such applications to enhance or upgrade office transactions through the use of a mobile device. This also means that the competencies of their subject IT Elect 2 or mobile Development Programming is being applied in their field work.

Mobile application is a PC-based application developed for small, wireless devices such as smartphones and tablets. The mobile application allows office transactions to be done anywhere since it is user-friendly, inexpensive, and runs by using mobile phones. Thus, enhancing this skill helps cooperating agencies to simplify office transactions through its practical functions such as browsing, video calling, browsing, social networking among others.

Level of Relevance of On-the-Job Training to their Courses

Major Course

Table 6 presents the level of relevance of on-the-job training to the major subject course of students. From the table, IT Ethics or Professional Ethics and Values Education for IT is identified as the highly relevant major subject

course in their on-the-job training with a frequency of 69 (73.40%). This means that the student trainees considered the promotion of the moral aspect of their stay in their participating agencies. The moral dimension as mentioned in the study of Cabauatan et al. (2020) are an essential element in all human relations. They determine whether one's action is in consequence of how s/he deals with fellow human beings.

From this major subject course, the student trainees were reminded of their duties and responsibilities in their cooperating agency i.e., to observe proper protocol and decorum (OJT Manual for IT Education in Region I, 2010). IT Ethics or Professional Ethics and Values Education for IT made them aware of the values implicit in the use of technology and information in the workplace. This portrays one important attribute of a CICM graduate which is to be an ethically-committed steward (CICM-PSN Report 2017-2018).

More so, the practice of professionalism and honesty in handling and securing information as one of the course learning outcomes of the course as stated in their syllabus is reflected. This only means that the student trainees demonstrated their being Louisians who religiously embrace the institutional vision-mission of the school which is to become Christ-centered and competent leaders responsive to the needs of the Church and society.

IT 12 or Multimedia Systems is also identified as a highly relevant major subject course in their on-the-job training with a frequency of 63 (67.02%). This means that the student trainees were asked to develop software in their cooperating agencies. This also means that they were able to apply the concepts of the subject course learning outcomes which are the following: application of a good designing approach and solving problems related to data representation and digital information, utilization of different forms of multimedia files and software, creation of various forms of multimedia using several software and technologies, among others (BSIT Syllabus, 2018).

Moreover, IT 6 or Operating System is also recognized as an essential subject course in their on-the-job training with a frequency of 60 (63.83%). This means that the student trainees perform actual installation, reformatting, and monitoring of operating systems connected to office computers. This includes the administration of software updates, account management, troubleshooting, and configurations.

Table 6. Level of Relevance of On-the-Job training to their Major Subject Course (Multiple Response)

Major Subjects	(f)	%	Descriptive Equivalence
IT ETHICS (Professional Ethics and Values Education for IT)	69	73.40	Highly Relevant
IT12(Multimedia Systems)	63	67.02	Highly Relevant
IT6 (Operating Systems)	60	63.83	Highly Relevant
IT8 (Web Programming)	42	44.68	Moderately Relevant
IT10 (Database Management Systems)	36	38.30	Slightly Relevant
IT0 (Fundamentals and Computer Concepts)	33	35.11	Slightly Relevant
ITELEC1B (Data Communication and Computer Networks)	27	28.72	Slightly Relevant
IT3 (Integrated Application Software)	21	22.34	Slightly Relevant
IT9 (Systems Analysis and Design)	21	22.34	Slightly Relevant
IT13 (Software Engineering)	21	22.34	Slightly Relevant
IT11 (Computer Organization and Architecture)	18	19.15	Rarely Relevant
ITELEC3B (Advanced Database Management System)	15	15.96	Rarely Relevant
IT15 (Network Administration)	15	15.96	Rarely Relevant
IT5 (Data Structures and Algorithms)	6	6.38	Rarely Relevant
IT7 (Object Oriented Programming)	6	6.38	Rarely Relevant
IT1 (Fundamentals of Problem Solving and Programming 1)	3	3.19	Rarely Relevant
IT2 (Fundamentals of Problem Solving and Programming 2)	3	3.19	Rarely Relevant
IT16 (Quality Consciousness, Habits, and Processes)	3	3.19	Rarely Relevant

This infers that the student trainees were able to meet the learning competencies of the subject course which is to compare system architecture, application interface, advanced features of commonly used operating systems, and examples and command applications that are presented along with Windows (BSIT Syllabus, 2018).

Minor Courses

Table 7 shows the level of relevance of on-the-job training to the minor subject course of students. Among the tables, Oral Communication is identified as a highly relevant minor subject course in their on-the-job training with a frequency of 81 (86.17%). This means that the on-the-job training students dealt with their language courses as well as their major subjects that required verbal communication. This corroborates with the findings of Table 6 that communication skills have to be developed to become successful in conveying and receiving important messages from their immediate supervisors in the company. This also means that the student trainees were able to meet one of the course learning outcomes of this minor subject course which is the development of self-confidence in speaking and demonstrating techniques in delivering a message (BSIT Syllabus, 2018).

The Fundamentals of Grammar follows with a frequency of 66 (70.21%) interpreted as highly relevant. As the most basic subject course in all programs, it allows every student enrolled to address their grammar needs to develop their mastery in the use of the English language. Oral communication is well developed if they have the basic knowledge in sentence construction and word order as well.

Thus, the on-the-job training students identified this minor course subject as essential in their fieldwork because it gives them confidence that what they are conveying may be in the form of verbal or written forms is effectively delivered. Further, the student trainees also achieved one of the course learning outcomes of this subject course which is to construct effective and grammatically correct sentences and formulate different forms of questions (BSIT Syllabus, 2018).

Table 7. Level of Relevance of On-the-Job training to their Minor Subject Course (Multiple Response)

Minor Subjects	(f)	%
Oral Communication	81	86.17
Fundamentals of Grammar	66	70.21
Presentation Skills and Technical Writing	36	38.30
Sining ng Pakikipagtalastasan	33	35.11
Effective Writing	33	35.11
Introduction to Logic	33	35.11
English Communication and Academic Purposes	21	22.34
Advanced Oral Communication	18	19.15
Basic Accounting	18	19.15
College Algebra	18	19.15
Probability and Statistics	15	15.96
Humanities	12	12.77
Christian Values	9	6.38
Mathematical Logic/Discrete Structures	3	3.19
Economics	3	3.19

Presentation Skills and Technical Writing are also considered by student trainees as an essential minor subject course in their on-the-job training with a frequency of 36 (38.30%) interpreted as moderately relevant. This subject culminates the first two minor subject courses identified by student trainees for it exposes them to technical writing, showing its similarities and differences to other types of writing skills. This subject discusses the four macro-

skills of communication such as listening, speaking, reading, and writing. Herewith, the students were equipped with the different principles, qualities, forms, and styles of writing which were beneficial in their cooperating agencies wherein they were asked to draft letters, proposals, and reports. Herewith, one of the course learning outcomes of this subject which is to write a technical report about surveys, feasibility studies, or research using acceptable form and style is achieved.

Problems Encountered by the Students in their On-The-Job Training

The student trainees have the following responses when asked about problems encountered in their on-the-job training. From their responses during their on-the-job training culmination activity, the student trainees mentioned "doing work not related to information technology". This is revealed in their accounts that they are "asked to do field work" and "serving as customer relations officer". This means that the student trainees are looking to integrate their specialization into their actual work in their cooperating agency. At a practical level, some requirements require collaboration between tertiary institutions and study programs with external parties such as service companies, industry, communities, other universities, and government and private agencies (Sihombing et al., 2023).

They also identified "extension of their on-the-job training after their prescribed stay in the companies". They stated that they "need to extend to finish the final outputs provided by the company". This delay hinders them from accomplishing their final academic requirements before graduation. Thus, it deters them to join in the graduation and more so, it defers them in the application of their credentials on time.

Another problem encountered by the student trainees is overtime. This could be gleaned in their responses that they "use to stay beyond office hours to finish a certain task" and they "stay because of some activities of the office that need their technical assistance". Going beyond office hours compromises their other tasks such as being late in their after-work classes and being late going home, especially for those who are from far places.

Lastly, they also acknowledged the "provision of institutional manual" as their most encountered problem. This could be seen in their responses that "the manual will serve as guide or reference during OJT experience", "the manual will lessen the stress of the OJT advisers about unending questions of students", and "reminds the do's and don'ts in the conduct of the training". This is also articulated and suggested by the cooperating industry during the industry-academe interface that the OJT manual should be provided so that documented policies will be followed (10th Industry Academe Interface, 2018). As stated in the situational analysis, the BSIT program of the College has no institutional on-the-job or practicum manual that guides the students in the conduct of their off-campus activities. As such, the student trainees require the creation of a manual to direct them in their duties and responsibilities and to inform them of the policies and guidelines related to their work. Indeed, on-the-job training manuals or internship manuals have to be designed to improve the quality of the internship/OJT/practicum of a particular program duly issued by the HEI (CMO 104, s. 2017).

Proposed Internship Manual for Bachelor of Science in Information Technology of Saint Louis College, City of San Fernando, La Union

Rationale

Academic institutions are faced with challenges, particularly on the graduates they produce which do not match the needs of the industry. A significant number of graduates today are unable to fill job openings due to job-skill mismatch. A great number of these skills found lacking by companies are taught in the academe that is, technical, human resource, and conceptual skills. In addition, these same skills can also be reinforced through on-the-job training programs.

On-the-job training (OJT) programs are course requirements providing an opportunity to apply the theories, principles, and ideas learned in the academe under supervision.

These training programs expose the students to work realities which will ideally hone their skills and prepare them once they get out of the university or college. Achievement of the OJT program objectives ensures the possibility of good performer graduates. The opposite will most likely produce poor performer graduates thus, promoting job-skill mismatch. Hence, on-the-job training programs, vital as they are, should be dynamic and skill-centered for the students to effectively grasp practical learning in the workplace.

The proposed Internship Manual for the Bachelor of Science in Information Technology of Saint Louis College is based on the findings of the study that the student trainees perceived as needed during their internship program. It is hoped that through proper utilization and application of this manual, the student interns will become more skilled, competent, and well-equipped in the delivery of their fieldwork.

The Manual is arranged from the vision-mission and core values of the College and the Information Technology department, the BSIT program, rationale, introduction, objectives, definition of terms, and its essential coverage which includes: course syllabus, requirements of involved parties, obligation and/or responsibilities of involved parties, policies, guidelines, and requirements, and deployment, monitoring, and evaluation. CHED Memorandum Order 104 Series of 2017 entitled "Revised Guidelines for Student Internship Program in the Philippines (SIPP) for All Programs)"

Conclusions

The study assessed the post-on-the-job training performance of the Bachelor of Science in Information Technology (BSIT) students of Saint Louis College, City of San Fernando, La Union during the School Year 2018 – 2019. It specifically looked into the perception of students in terms of the company's organization, level of Information Technology utilization of the company, level of Information Technology skills developed by the students in their OJT, and level of relevance of on-the-job training. It also determined the problems encountered by the students in their on-the-job training. The results served as a basis for the crafting of the internship manual.

This study utilized the descriptive-normative design with post-OJT evaluation as the main tool for gathering data. A total of 94 BS Information Technology on-the-job training students were the respondents. Data were treated using frequency count, percentage, weighted mean, and thematic analysis.

The findings of the study were (1) the company utilized IT-based software and IT practicum students are assigned to tasks related to the on-the-job training students' specialization, (2) the on-the-job training students identified communication skills as an IT skill most developed in their OJT while mobile application development skills were identified as the least, (3) the on-the-job training students identified Professional Ethics and Values Education for IT, Multimedia Systems, and Operating Systems as the most relevant major courses while Oral Communication, Fundamentals of Grammar, and Presentation Skills and Technical Writing as the most relevant minor subject courses, (4) the on-the-job training students perceived doing work not related to information technology, extended OJT, overtime, and provision of OJT manual as problems, and (5) based on findings and applicable legal bases, an Internship Manual for Bachelor of Science in Information Technology for Saint Louis College, City of San Fernando, La Union had a high level of validity.

In light of the above-cited findings, the following conclusions are drawn (1) the company's organization operations and resources are related to the on-the-job training students' specialization, (2) the company's organization is the appropriate venue for IT student trainees as it provides specific competencies for IT needs, (3) the on-the-job training students are generally commendable in their fieldwork but need to improve their level of information technology skills, and (4) the proposed Internship Manual for Bachelor of Science in Information Technology for Saint Louis College, City of San Fernando, La Union can be an effective tool to address the training needs of students.

The following are the recommendations of the study: (1) The result of the study should be presented to the Vice President for Academic Affairs and the Dean of the College of Arts and Sciences, Teacher Education and Information Technology to further assess and validate the

internship manual as students' basis for their fieldwork, (2) The internship training manual should be considered for adoption and implementation, (3) The internship manual should be distributed to student trainees, OJT coordinators, and industry OJT supervisors, (4) A study should be conducted to assess the effectiveness of the internship manual, (5) A review and revision of the internship manual should be conducted every five years, (6) Results of the study should be incorporated in the syllabi of on-the-job training subject courses to enrich discussion in the said program, and (7) Similar studies should be conducted in other programs most especially courses offering on-the-job training programs.

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