

Bachelor of Industrial Technology On-the-Job Performance of ISCOF-Barotac Nuevo Campus: An Evaluation for Curricular Reform

Haro, Irvin M., Ph.D.

Philippines

Abstract: This paper discusses the OJT performance of the first batch BIT graduating students of Iloilo State College of Fisheries, Barotac Nuevo Campus in terms of cognitive or job Knowledge, psychomotor or practical skills, and affective or work behavior. Conducted last December 2016 up to March 17, 2017, subjects were distributed in various OJT centers namely; Kalibo, Bacolod City, Cebu City, Roxas City, Iloilo City and Barotac Nuevo, Iloilo. Although the results showed that the Bachelor of Industrial Technology graduating students OJT performance were “very satisfactory” in the different domains; cognitive domain (4.09), psychomotor domain (4.05) and affective domain (4.14), significant differences in the OJT performance were noted when grouped according to age and area of specialization. Older group got high performance over younger group, while Although the OJT performance of Industrial Technology students is highly acceptable, stronger linkages between the college and industries must be strengthened, upgrading of school facilities such as shops and laboratories based on the standards of the industry, retooling of the industrial technology instructors such as immersion locally and abroad were given emphasize and lastly, admission policies need to be revisited as well in order to strengthen curricular programs of BIT. These factors will be considered in the reforms of the Bachelor of Industrial Technology curriculum in order to keep abreast with the demands of the growing industries.

Keywords: Bachelor of Industrial Technology, On the Job Training, Evaluation, Curricular Reform.

1. INTRODUCTION

Background of Study

Competencies are the skills and capabilities that make future graduates gain an employment and become successful in their chosen occupations as they find their way through a dynamic labor market and industry someday. Globalization has brought changes in education, the industry, in the businesses, and other sectors of the community, of the nation and of the world. The Philippines is one of the countries overwhelmed by the seemingly indecisive changes brought by global phenomenon.

The influence of technology goes beyond new equipment and faster communications, as work and skills need to be redefined and rationalized. Lasan (2000) stressed out that human resources are the strong workforce of the industries worldwide that affected by this changes which contributes to the global economy. In lined with this period of globalization, the higher education institutions have been concerned with the development of the whole person in terms of his competencies and employability skills which any educated person should expect to have by the time of graduation. It becomes a necessity for the higher education institutions (HEIs) to respond to the erratic and changing labor market and make parallel adjustments in order to fulfill their goals and objectives in consonance to their mission and vision to avoid mismatch.

To be competent, one should demonstrate the discipline specific technical skills required, as well as the broader range of competencies and employability skills needed by the industry. The competencies and employability skills provide the link between the academic studies in the higher learning institution and graduates' employment which are very essential to the future. Morley (2001) stresses that the role of higher education has been widely-influenced by the industry. While there are differing views on the goal of higher education, one emergent theme appears to surface; to a degree, higher education should prepare students for future employment (Cole and Thompson, 2002). One of the vital concerns in higher education institutions is the rate of unemployment, underemployment and misemployment or the percentage of graduates who land vertically with their course which affects performance of the college or university. Aside from the issue of low absorptive capacity of the labor market and industry to the current and previous graduates, one of the biggest issues is the quality of graduates that possesses the right competencies which the industries are needing for their workforce Habalo (2016). The higher learning institution should nurture the students' competency in order to answer the growing demands of industries. Accordingly, without compromising the academic principles, Abas-Mastura (2013) argued that HEIs should demonstrate a greater commitment to develop the generalized expertise where the graduates can transfer to whatever working environment they find themselves in after graduation. For (Barth, Godemann, Rieckmann, and Stoltenberg, 2007), teaching and learning these competencies are consistent with the emerging needs of a world economy in a high performing workplace.

These competencies are the needed skills of the Bachelor of Industrial Technology On-Job-Trainee students in doing specialized and specific job in the industry which may contribute to their actual performance and employment someday. Furthermore, the needs of the National Certification Level 1 and 2 of the graduates are necessary in order to gain employment in the industry (TESDA Competency Manual, 2008). This National Certificate Level 2 serves as evidence of graduate's competencies towards the specialized course they had studied. Lazarus (2013) emphasizes that those competencies can be acquired through training and education or can be learned on the job specific to each work setting.

With different situation and conditions cited above which affect industrial technology program, the researcher was inspired to conduct a study in order to determine the level of on-the-job training performance of Fourth Year Bachelor of Industrial Technology first batch graduating students, Second Semester SY 2016 - 2017, whether or not the college is producing quality graduates needed by industry and could make necessary revision for the curriculum and necessary trainings and seminars for the instructors for the future.

Further evidences related to this study will be discussed in the Theoretical and Conceptual Framework and the Review of the Related Literature.

2. THEORETICAL FRAMEWORK

This study is anchored on Thorndike's Law of Readiness which (Elliot, Kratochwill, Cook and Travers 2003) stresses the learner's readiness are connected in the physical, biological and psychological maturity of an individual before he/she can learn specific skills. Nwankwo (2007) consider readiness as necessity for an individual to learn new skills. The readiness of an individual is based on his/her willingness to learn, and without readiness, no learning can take place.

The OJT program is further supported by the Process Habit Theory based on the notion of Prosser and Quiqley, which holds that vocational education is as efficient as the training jobs in the occupation itself. This theory gives importance that the functional habits can be gained through the concrete work in industry and not only by giving teaching in the classroom. Evidently, OJT is preparing the students for the real job after graduation.

CONCEPTUAL FRAMEWORK

As shown in Fig. 1 this study used input, throughput and output conceptual model.

The model shows how the research study was conducted. The paradigm of the study shows the antecedent variable which was the specialization of BIT OJT students namely: Automotive, Electricity and Electronics and Age namely; Older group and younger group, an independent variables was the BIT OJT students performance namely; Cognitive, Psychomotor and Affective and the dependent variable of the study is the BIT Curricular Reform which was done based on the results of the study.

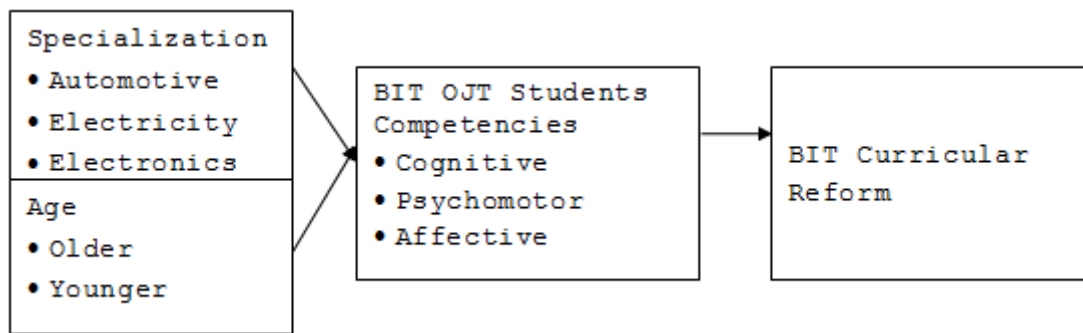


Figure 1: shows the relationship among the variables considered in the study.

Statement of the Problem

This study was conducted to determine the OJT performance of Bachelor of Industrial Technology on-The Job Training of ISCOF-Main Poblacion Campus, Second Semester, 2016 - 2017. Specifically, this study sought answers to the following questions:

1. What is the profile of the industrial technology students in terms of age and areas of specialization?
2. What are the OJT competencies developed by industrial technology students in the cognitive-job knowledge, psychomotor-practical skills and affective-work behavior?
3. What are the distinctive OJT performance in the following domains of learning; (a) Cognitive or Job Knowledge, (b) Psychomotor or Practical Skills, (c) Affective or Work Behavior, when they are grouped according to age and areas of specialization?
4. Are their differences in the OJT performances of fourth year Bachelor of Industrial Technology first batch graduating students when they are grouped according to age, and areas of specialization as evaluated by the OJT supervisors?

Hypothesis of the Study

1. There is no significant difference in the OJT performance of Fourth Year Bachelor of Industrial Technology first batch graduating students when grouped according to age and areas of specialization.

3. METHODOLOGY

Research Design

This study was using the descriptive method research which describes the processes and procedures used in the entire study. Using the survey research, the data was gather from groups of people by way of questionnaires (Ary, Jacobs, and Razavieh, 2002). (Gall, Gall and Borg, 2003) stated that the purpose of a survey was to use questionnaires or interviews to collect data from a sample that has been selected to represent a population to which the findings of the data analysis can be generalized.

Survey research can be used to assess needs in the study. Gall et al. (2003) stated that needs assessment research is used to measure the precise extent of discrepancy between an existing state and a desired state. For a needs assessment to occur, a clear and obvious need has to be identified. Upon identifying a need, judgments can be made as to what exists and what is desired (Gall et al., 2003).

Data was collected via actual one on one survey and thru email in order to gather information related to BIT OJT students OJT which comprises of the cognitive, psychomotor, and affective domains required by the industry in the workforce.

The Subjects of the Study

The subjects of this study were the Fourth Year Bachelor of Industrial Technology First Batch Graduating Students of the College of Industrial Technology who were enrolled in the Associate Courses; namely 9 – BIT major in Electronics, 10 – BIT major in Electricity and 19 – BIT major in Automotive Technology, second semester, academic year 2016 – 2017 of ISCOF Main Poblacion Campus. All OJT students were distributed in the following OJT centers, namely; Kalibo, Iloilo City, Roxas City, and Barotac Nuevo.

Table 1: Distribution of On-The-Job Training in Different Training Centers.

Location of Training Centers	Number of OJT Center							TOTAL
	1	2	3	4	5	6	7	
Kalibo, Aklan	1							1
Iloilo City	10	3	5	3	4	3	4	34
Roxas City, Capiz	2							2
Barotac Nuevo, Iloilo	1							1
TOTAL								38

Data Gathering Instrument

The OJT performance exit performance evaluation sheet was the main data gathering instrument used in this study. The instrument used was with permission from dissertation of Dr. Renato Sorolla entitled, “The On-The-Job training Performance of Technician Students and Its Relationship to their Scholastic Achievements”, soliciting the OJT performance of students.

According to Vockell, Edward, 1983 the questionnaire is a data collecting instrument on which the respondent directly supplies his own answer to the set of questions.

The questionnaire was designed to solicit information regarding the performance of the industrial technology students doing their OJT in the industry. This was distributed to the various OJT centers for evaluation by the industry supervisors,

The rating scale was used in making appraisal of the level OJT performances and how they performed their work/jobs in the industry.

Data Collection Procedure

The exit evaluation sheet was prepared and distributed to the different OJT centers by the researcher, made it easy to collect the necessary data. The OJT exit evaluation sheet contains the personal data of the student trainee, such as name, age, sex, OJT center and the checklist for evaluation and the comments of the industry supervisor. The researcher together with the OJT adviser had to travel to the different automotive industries, electrical and electronics companies in order to administer and retrieve the instruments.

Data Analysis Procedure

In order to determine the level of performance of student trainee who had undergone on the job training, the exit performance evaluation sheets were analyzed and interpreted with the used of suitable statistical tools.

The frequency count was used in the tabulation of student’s performance in their OJT. The percentage was used to determine the level of performance of groups according to the variables selected. The mean and standard deviation was used to determine the performance of the Bachelor of Industrial Technology on-The Job Training of ISCOF-Main Poblacion Campus, Second Semester, 2016 – 2017 in the three learning domains.

This scale was arbitrarily used to delineate the result of the study.

1.00	-	1.50	Needs Improvement
1.51	-	2.50	Fair
2.51	-	3.50	Satisfactory
3.51	-	4.50	Very Satisfactory
4.51	-	5.00	Excellent

4. RESULTS AND DISCUSSIONS

This chapter presents the analysis and interpretation of data gathered from the OJT performance of industrial technology students of ISCOF Barotac Nuevo Campus.

Table 2: The Distribution of OJT Students in the different training center.

OJT center	(f) Frequency	(%) Percentage
Kalibo, Aklan	1	2.63
Roxas City	2	5.26
Iloilo City	34	89.48
Barotac Nuevo	1	2.63
Total	38	100

The profile of OJT centers shows the distribution of OJT students in each center. In this study, the Iloilo City OJT Centers has the biggest percentage of OJT Students which is 89.48% and were composed of 16 BIT major in Automotive Technology, 10 Bit major in Electricity and 8 BIT major in Electronics OJT students, followed by Roxas City OJT Center which is 5.26% and were composed of 2 BIT major in Automotive Technology OJT Students, 2.63% of the OJT students or 1 OJT student performed his OJT at Barotac Nuevo and 2.63% or 1 OJT Student undertaken his OJT at Kalibo, Aklan.

Table 3 shows the profile of OJT students composed of different categories, namely; Age – Older and Younger Groups, and the Areas of Specialization.

The Younger group got a 63.16% or 24 students compared to older group which is 36.82% or 14 Students.

The BIT Automotive Technology group got 50.00% of the total population which are 19 students. The BIT Electricity group got 26.32% or 10 students and the BIT Electronics group got 23.68% or 9 students.

Table 3: The profile OJT Students according to certain categories.

Categories	(f) Frequency	(%) Percentage
A. Entire Group	38	100
B. Age		
Older	14	36.82
Younger	24	63.16
C.Areas of Specialization		
Automotive Tech.	19	50.00
Electricity	10	26.32
Electronics	9	23.68

Tables 4 show the different levels of Performance of the entire OJT students according to certain categories. The obtained mean scores range from 3.92 – 4.17. The standard deviations which ranged from 0.07 – 0.94 revealed a wide dispersion of the means indicating different levels OJT students when classified according to age and areas of specialization.

Although the descriptive ratings of OJT students in all categories were “very satisfactory”, the means revealed that the mean of the older group is (M = 4.11) reflected a more favorable OJT performance than the younger group (M = 3.98) OJT performance.

Table 4: The Performance of OJT students according to categories.

Categories	Mean	Description	SD
Over-All			
Age			
Older	4.11	Very Satisfactory	0.50
Younger	3.98	Very Satisfactory	0.78
Areas of Specialization			
ELX	4.14	Very Satisfactory	0.07
AT	4.17	Very Satisfactory	0.45
ELT	3.92	Very Satisfactory	0.94
Three Learning Domains			
Cognitive	4.049	Very Satisfactory	0.17
Psychomotor	4.05	Very Satisfactory	0.17
Affective	4.14	Very Satisfactory	0.085

In terms of areas of specialization, the BIT Automotive Technology group (M = 4.17) and BIT Electronics Technology Group (M = 4.14) reflected a more favorable OJT performances than the BIT Electricity (M = 3.92) OJT performance.

In terms of OJT performance based on the three learning domains, the OJT students got a higher mean in the Affective Domain (M = 4.14) reflected a more favorable OJT performance compared to Psychomotor Domain (M = 4.05) and Cognitive Domain (M = 4.049) OJT performance.

Data in Table 5 reveals that the OJT students were capable of undertaking On-the-Job Training as perceived by their OJT supervisors according to areas of specialization. The obtained standard deviations which ranged from 0.07 – 0.94 revealed a wide dispersion of means, indicating the student’s variations of OJT performance according to areas of specialization.

Although the descriptive rating of all categories were very satisfactory, closer scrutiny of the means revealed that the BIT Automotive Technology group (M = 4.17) and BIT Electronics Technology group (M = 4.14) were more favorable OJT performance than the BIT Electricity group (M = 3.92) OJT performance.

Table 5: Level of Performance of OJT students as evaluated by OJT center supervisor according to areas of specialization.

Variables	Mean	Description	Rank
Areas of Specialization			
ELX	4.14	Very Satisfactory	Second
AT	4.17	Very Satisfactory	First
ET	3.92	Very Satisfactory	Third

The t-Test results in Table 6 revealed that the OJT students differed significantly in their OJT performance when grouped according age, older group M = 4.115, $t(36) = 0.50$, $p < .62$ – got better performance in favor of the younger group M = 4.005, $t(36) = 0.50$, $p < .62$ OJT performance.

Table 6: t-Test Results on Performance of OJT Students as evaluated by OJT Supervisors.

Categories	Mean	t-value	df	2-tail Prob.
A. Age				
Older	4.115	0.50	36	0.62
Younger	4.005			

Table 7: Analysis of Variance (ANOVA) of the Performance of OJT students as evaluated by the Center Supervisor when grouped as to areas of specialization.

Source of Variation	SS	df	MS	F	P-Value	F crit
Between Groups	0.019	2	0.009	0.425	0.672	5.143
Within Groups	0.133	6	0.022			

ANNOVA results in the Table 7 show that no significantly differences existed in the OJT performance of students when grouped to areas of specialization $F(2, 6) = 0.425$.

Table 8: OJT Performance of CIT students according to OJT supervisor comments and suggestions.

CIT Students	Supervisor Comments and Suggestions
BIT Automotive Group	1. He really maintains quality works 2. He can relate easily in any activities. 3. He is eager to learn on her work assignment. 4. He has the initiative to perform her job effectively.
BIT Electricity Group	1. Comprehend the instructions clearly and know how to use the instrument properly. 2. Do His assigned task promptly and diligently.
BIT Electronics Group	1. Perform well in troubleshooting television. 2. Can work without supervision.

The data on the Table 8 reflected the OJT performance of CIT students based on the comments and suggestions of industry supervisors shows the develop competencies acquired by the trainees during the on-the-job training.

5. FINDINGS

Based on the result of the study the following findings were drawn:

1. The fourth year Bachelor of Industrial Technology first batch graduating students have an over-all level of OJT performance in the different domains were Very Satisfactory; cognitive domain is 4.049, psychomotor domain is 4.05 and affective domain is 4.14.
2. The levels OJT performance when grouped according to selected variables was noted;
 - 2.1 Both younger and older group had obtained Very Satisfactory OJT performance in the three learning domains. Younger group obtained 3.98 compared to older group which is 4.11.
 - 2.2 When grouped according to areas of specialization, the BIT Automotive Technology group ($M = 4.14$), BIT Electronics group ($M = 4.14$) and BIT Electricity group ($M = 3.92$) all with Very Satisfactory ratings.
 - 2.3 There were no significant difference in the level of OJT performance of industrial technology students when grouped according to age, sex and areas of specializations.
 - 2.4 Based on the comments and suggestions of industry supervisors, the OJT students had acquired competencies during OJT which are necessary for there future jobs someday.

6. CONCLUSIONS

On the basis of the findings of this study, the following conclusions were drawn:

- 1 Generally, the Bachelor of Industrial Technology Students On-The Job Training of ISCOF-Main Poblacion Campus, Second Semester, 2016 – 2017 had highly acceptable level of OJT performance according to the perception of their industry supervisors.
- 2 The BIT Automotive Technology group obtained a higher level of OJT performance compared to other courses.

3 Older groups has a higher level of OJT performance compared to younger group.

4 There were significant difference in the OJT performance of the OJT students when classified according to age and areas of specialization.

7. RECOMMENDATIONS

Based on the following findings and conclusions of this study, the following were recommended:

1 Although the level of OJT performance of the industrial technology students was “Very Satisfactory”, a stronger linkages between the college and industries locally and abroad should be strengthened to further improved and enhance the trainings of the industrial technology students.

2 School Administrator should upgrade the facilities in the shops and laboratories based on the standards of the industry in order to cope with the changing world of industries.

3 Instructors should adapt new trends of approaches especially the necessary competencies should be developed by the students during the entire training in the school.

4 The industrial technology curricula should be up to date and be revised in order to keep abreast with the demand of the growing industries worldwide.

5 The college should send the industrial technology instructors to the different industries for immersion locally and abroad in order to update and acquire new knowledge for the new trends of the industry.

6 The verbal and mathematical ability of industrial technology students during admission test should be observed in order to have competitive students.

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