

Study of Field Training for Automotive Department in Industrial Training Institute – Sabah Al Salem

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Abstract— The current study discusses range of benefit directed to students of Automotive Department in Industrial institute-Sabah Al Salem, relevant to field training in Kuwait market. A comparison between governmental institutions and private companies conducted to select the targeted entity for the training. The study conducted by using comprehensive limitation upon study's population consisted of (84) students, and (20) instructors from Automotive Department having a direct relationship with field training.

Two surveys were designed to recognize range of benefit with field training that obtained by the students, one for field training instructors, and other one limited for students of filed training.

The results showed that the challenges associated with instructors are the large number of students supervised by the instructor in filed training. Adding to that the challenges associated with the students, are the lack of understanding between the students and the company supervisors.

Key words: *Field training, Education, Practical training, Vocational training.*

I. INTRODUCTION

The Public Authority For Applied Education and Training paid more attention towards education, because it's considered as a development tool for individuals, and its importance also in training and formation of the students, thus, the authority provided all training equipment required for the basic organized training decided for the students, through well-arranged scientific programs and plans, which aim to elevate student's level, by increasing their skills and knowledge, making a positive change in student's behavior and orientation towards the work properly.

Industrial institute- Sabah Al Salem, is one among 12 institutes of the Public Authority of Applied Education and Training. It was establish in 1992, through cooperation with German Technical Cooperation Agency (GTZ) [1]. The institute was equipped by the latest modern training tools and equipment to prepare and qualify medium technical cadres who obtained intermediate certificates in Kuwait education. It

offers suitable alternative for talented students with technical abilities, instead the public high school education.

The period of study in the institute is three years; in addition, some distinct trainees may be entitled according to a certain conditions to complete the study in the fourth year, which equivalent to Industrial high school certificate.

Institute's students receive theoretical and practical training, in addition to that two filed training organized during summer holiday after fourth training semester and at end of sixth training semester. Filed training can be considered as activity to increase student's skills and experiences enabling them to elevate their performance level in different occupational situations. However, field training is conducted through field practice based on various basics, aim to understand student's field experiences and technical skills by conducting training in governmental authorities, and privates companies according to suitable scientific basics and modern technological methods as well.

II. RESEARCH PROBLEM:

The problem of the study is to understand the challenges that identifying the obstacles to achieve a comprehensive quality in applying field training's approach.

This can be represented in the following questions: what is fact and nature of field training in automotive engineering including its various specializations at Industrial Institute-Sabah Al Salem? What is level of benefit from the field training? What is the efficiency level in work to be achieved in field training?

III. IMPORTANCE OF THE STUDY:

The importance of the current study aims is to reveal range of actual benefit obtained by students of automotive department through training in private companies and governmental organizations within training period.

However, results of the current study may be utilized to limit the challenges meets instructors and students. Rethinking about some entities of field training as targeted authorities, by providing assistance for the competent authorities whether

existing in institute or authority to take the suitable procedures regarding the same, which reflects positively upon student's scientific understanding during field training period.

IV. OBJECTIVES OF THE STUDY:

1. Realize fact of field training in automotive department.
2. Select suitable training authority.
3. Effective supervision towards the students during field training period.
4. Recognize challenges and problems that encounter instructors and students during field training period.
5. Discuss these problems, and suggesting applicable recommendations.

V. LIMITS OF THE STUDY:

This current study limited according the following:

1. Industrial institute- Sabah Al Salem.
2. Training staff at automotive department, those who previously supervised over the students during field training period.
3. Students of second and third academic years at automotive department.

VI. STUDY'S POPULATION:

This study was conducted by using the comprehensive limitation method for training staff and students at automotive department available in industrial institute, Sabah Al Salem, however, study's population was performed as the following:

1. No. of (20) member among training staff who have a direct relationship with field training.
2. No. of (84) students belonged to second and third educational year, for the academic year 2014/2015.

VII. METHODOLOGY:

Two special surveys in attempt to recognize fact and nature of field training, and realizing the challenges, to reach the comprehensive quality through questionnaire own opinions of training staff and students as well.

The first survey is limited for training staff, and divided into two parts:

1. Relevant to training in work site, and range of company's commitment towards training program which agreed upon with the institute, however, no. of (8) paragraphs are included.
2. Relevant to events and challenges of field training, however, no. of (7) paragraphs are included.

The second survey is limited for the students, and divided into three parts:

1. Relevant to training in work site and range of company's commitment towards training program which agreed upon with the institute, however, no. of (12) paragraphs are included.
2. Relevant to events and challenges of field training, however, no. of (11) paragraphs are included.
3. Related to events conducted by field training's supervisor, and range of performing his supervision duties perfectly, however, no. of (9) paragraphs are included.

VIII. DATA ANALYSIS:

In this section factor analysis is described, it is a set of p random variables in terms of a smaller number ($m < p$) of unobserved constructs, called factors which are determined by interpreting coefficients in a factor model, called loadings. The common factor model can be described as

$$X_i = a_{i1}F_1 + a_{i2}F_2 + \dots + a_{im}F_m$$

Where X_i is the i th variable, a_{ij} is the j th factor loading for the i th variable, and F_1, F_2, \dots, F_m are the uncorrelated common factors. The square of the factor loading a_{ij} is the proportion of the variance of X_i that is explained by the factor F_j . The variance of i th variable can be split into two components, one corresponding to the variance specific to that variable and a variance that is common to all variables, in the form of the m factors. The estimate of this second component is the communality the sum of the squared factor loadings across the m factors for the variable in question.

The partial pairwise correlations between the variables after controlling for all other variables should be small compared to the original correlations; this indicates that the common factor model can do a good job of explaining the overall variation. However, if the partial pairwise correlations differ little from the original correlations, or worse are actually larger in absolute value, then this could be an indication that the common factor model is not appropriate for the data. Variables must be removed and/or added to the set included in the factor analysis to improve the factor model. Kaiser's Measure of Sampling Adequacy (MSA) is a summary of how much smaller the partial correlations are from the original correlations [2,3,4]. This measure is calculated for each variable, and overall.

IX. STATISTICAL PROCESSES USED IN THE RESEARCH:

For processing the statistical data, the researcher used Statistical Packages for Social Sciences (SPSS) and repetitions and percentages have been extracted for responses of sample of study, and averages, standard deviations and Cronbach's alpha equivalence have been extracted to measure the reliability.

The following table describes the analysis of data for trainers using Cronbach's alpha coefficient to measure the reliability:

Parts	Cronbach's alpha coefficient
First part	0.779
Second part	0.593

Statements	Cronbach's alpha coefficient
15	0.826

Through the above table, it is clear that the survey has a high level of reliability that ranges between (0.593 – 0.779), while the average of reliability for Cronbach's alpha coefficient for all statements is (0.826) and it is a very high and suitable percentage that assures the researcher to use the research tool as a tool for collecting data to answer research questions and assert results of its application.

The percentages, repetitions, average, standard deviations and levels of paragraphs for the trainers:

Table (1)

Part 1: Training Authority (company)										
No.	Statements	High level		Average level		Low average		Average level	Standard deviation	Level
1	In your opinion, the training authority me the required level of training	4	20.0	14	70.0	2	10.0	2.1000	.55251	Seventh
2	Training authority is committed to safety and security rules.	11	55.0	9	45.0	-	-	2.5500	.51042	Third
3	Training authority cares of vocational appearance for the trainee (safety shoes and overall "Balasoot")	7	35.0	10	50.0	3	15.0	2.2000	.69585	Sixth
4	Training authority is committed to the training program agreed with the institute.	1	5.0	12	60.0	7	35.0	1.7000	.57124	Eighth
5	Training in workshops of private companies is better than training in workshops of governmental authorities	17	85.0	1	5.0	2	10.0	2.7500	.63867	First
6	Equipment and devices available at the training authority is advanced and better that those are available at the institute.	9	45.0	11	55.0	-	-	2.4500	.51042	Fifth
7	You think the training period is suitable during summer holiday	16	80.0	3	15.0	1	5.0	2.7500	.55012	Second
8	Field training plan is clear and announced upon the start of training	10	50.0	10	50.0	-	-	2.5000	.51299	Fourth

Table (135) illustrates the

Order	Statements	Reasons
First	Training in workshops of private companies is better than training in workshops of governmental authorities	High level that indicates the interest given by the private companies to training workshops and that workshops are equipped with the most advanced equipment and devices contrary to the workshops organized by governmental authorities.
Second	You think the training period is suitable during summer holiday	High level indicating that field training plan is suitable during the summer holiday, the months of July and August.
Third	Training authority is committed to safety and security rules.	High level indicating that the training authority is keen on providing students with safety and security skills and avoiding accidents.
Fourth	Field training plan is clear and announced upon the start of training	High level of trainers' opinion indicating that there is a clear strategy and developed plan for field training by science section that help trainers provide good supervision during training period.
Fifth	Equipment and devices available at the training authority is advanced and better than those are available at the institute.	Moderate level indicating the advancement of equipment and devices in the institute.
Sixth	Training authority cares of vocational appearance for the trainee (safety shoes and overall "Balasoot")	Moderate level of trainers' opinion indicating that some countries do not care about the appearance of trainees as they are not employees at the company and do not affiliate to it.
Seventh	In your opinion, the training authority meet the required level of training	Moderate level indicating that there is a deficiency of science section to select the best companies as a target authority for training
Eighth	Training authority is committed to the training program agreed with the institute.	Moderate level indicating that there is a deficiency of science section and supervisors to avoid imposing the training program previously agreed between the training authority and institute.

Table (2)

Part 1: Training Authority (company)										
No.	Statements	High level		Average level		Low average		Average level	Standard deviation	Level
1	The institute works on removing the difficulties for the trainee at the training authority	13	65.0	7	35.0	-	-	2.6500	.48936	First
2	The training period was not enough for training	14	70.0	4	20.0	2	10.0	2.6000	.68056	Second
3	The student's benefit from the training during field training period	1	5.0	18	90.0	1	5.0	2.0000	.32444	Fifth
4	Number of supervisors in work location is enough	2	10.0	4	20.0	14	70.0	1.4000	.68056	Seventh
5	The student himself works at the workshop of training authority	3	15.0	15	75.0	2	10.0	2.0500	.51042	Fourth
6	Training authority cares about students' attendance	7	35.0	7	35.0	6	30.0	2.0500	.82558	Third
7	Students were distributed to companies according to each student's desire.	2	10.0	6	30.0	12	60.0	1.5000	.68825	Sixth

Table (2) illustrates the following:

Order	Statements	Reasons
First	The institute works on removing the difficulties for the trainee at the training authority	High level indicating that institute management look after the trainee students outside the institute and it is clear that there is a strong relationship between institute management and training authority.
Second	The training period was not enough for training	High level indicating that the time schedule of field training is perfect and enough for training student in summer holiday.
Third	Training authority cares about students' attendance	Moderate level indicating that there is some deficiency by the supervisors not to apply the conditions agreed by the institute and training authority including caring about students' attendance.
Fourth	The student himself works at the workshop of training authority	Moderate level indicating that burden is common among the student, institute and training authority to find a mechanism that give the student a chance to work by himself at the training authority.
Fifth	The student's benefit from the training during field training period	Moderate level for many reasons including: Neither giving a chance and confidence to students by some companies to complete the works with themselves and nor the chance to select the training authority targeted by science section. Moreover, the lack of supervisors which causes that student misses answering science questions during training period.
Sixth	Students were distributed to companies according to each student's desire.	Low level indicating that that student is not given the chance to select the targeted authority, the matter which reflects positively on his performance at training authority.
Seventh	Number of supervisors in work location is enough	Low level indicating the lack of supervisors in work locations, the matter which reflects negatively on the possibility to follow the students up during training period.

The following table describes the analysis of data for trainers using Cronbach's alpha coefficient to measure the reliability:

Parts	Cronbach's alpha coefficient
First part	0.644
Second part	0.695
Third part	0.804

Statements	Cronbach's alpha coefficient
32	0.653

Through the above table, it is clear that the survey has a high level of reliability that ranges between (0.644 – 0.804), while the average of reliability for Cronbach's alpha coefficient for all statements is (0.653) and it is a good and suitable percentage that assures the researcher to use the research tool as a tool for collecting data to answer research questions and assert results of its application.

Percentages, repeats, arithmetic averages, standard deviations, and grades of expressions relevant to the trainees according to the below mentioned table.

Table 2: The first axe: training entity (the company)

The first axe: training entity (the company)										
Serial	Expression	Significantly		Moderately		Lower grade		arithmetic average	standard deviation	Rank
		Percentage	Repeat	Percentage	Repeat	Percentage	Repeat			
1	Did training entity committed with required level of training?	52	61.9	29	34.5	3	3.6	2.5833	.56416	Sixth
2	Did training entity committed rules of safety and security?	71	84.5	13	15.5	-	-	2.8452	.36385	Second
3	Did training entity committed professional appearance of trainee (safety shoes, boilersuit)?	75	89.3	9	10.7	-	-	2.8929	.31115	First
4	Did training entity committed with training program agreed upon with institute?	63	75.0	17	20.2	4	4.8	2.7024	.55493	Fifth
5	Did training entity committed with student's attendance and absence?	67	79.8	17	20.2	-	-	2.7976	.40419	Third
6	Did training in workshops of private companies is better than training in workshops of governmental authorities?	35	41.7	31	36.9	18	21.4	2.2024	.77272	Ninth
7	Did tools and equipment provided by training authority were newly developed and better than those available in institute?	46	54.8	13	15.5	25	29.8	2.2500	.89004	Eighth
8	Did you faced any difficulty while dealing with technician of training entity?	17	20.2	43	51.2	3	3.6	1.9167	.69782	Eleven
9	Did your technician was able to explain information for you?	51	60.7	25	29.8	-	-	2.5119	.66756	Seventh
10	Did your reference technician in training entity was cooperated?	70	83.3	11	13.1	-	-	2.7976	.48545	Third
11	Did you benefited from a training provided by your technician?	66	78.6	18	21.4	4	4.8	2.7857	.41279	Fourth
12	Did your training entity is near to your house?	26	31.0	36	42.9	-	-	2.0476	.75896	Tenth

Table 3: Ranking of the first axe: training entity

Order	Paragraphs	Reasons
First	Did training entity committed professional appearance of trainee (safety shoes, boiler suit)?	With highly significant level related to interest of training entity with student's general appearance as technicians working in developed workshops.
Second	Did training entity committed rules of safety and security?	With highly significant level related to interest of training entity to provide students with skills of safety and security, and to avoid accidents.
Third	Did training entity committed with student's attendance and absence?	With highly significant level related to interest of training entity to follow up program of student's attendance and absence as agreed upon with the institute.
Fourth	Did your reference technician in training entity was cooperated?	With highly significant level related to interest of technician to develop student's level
Fifth	Did you benefited from a training provided by your technician?	With highly significant level related to technician's highly experienced and great skills to provide the students with information.
Sixth	Did training entity committed with training program agreed upon with institute?	With highly significant level related to interest of training entity to provide student with training program as agreed upon with institute.
Seventh	Did training entity committed with required level of training?	With highly significant level related to interest by selecting highly efficient training entities.
Eighth	Did your technician was able to explain information for you?	With highly significant level related to advanced training level owned by the technician.
Ninth	Did tools and equipment provided by training authority were newly developed and better than those available in institute?	With a medium significant level related to availability of developed tools and equipment available in the institute.
Tenth	Did training in workshops of private companies is better than training in workshops of governmental authorities?	With a medium significant level related to advanced training level and efficiency owned by institute's instructors in training field.
Eleventh	Did your training entity is near to your house?	With a medium significant level by not giving a choice to the student to select his targeted training entity.
Twelfth	Did you faced any difficulty while dealing with technician of training entity?	With a medium significant level related lack of Arabic language skill performed by the technician.

Table 4: Training events

Training events										
Serial	Expression	Significantly		Moderately		Lower grade		arithmetic average	standard deviation	Rank
		Repeat	Percentage	Repeat	Percentage	Repeat	Percentage			
1	Do you think that field training during summer holiday is suitable?	21	25.0	21	25.0	42	50.0	1.7500	.83414	Tenth
2	Did plan of field training was clear and announced from beginning of training?	41	48.8	37	44.0	6	7.1	2.4167	.62495	Sixth
3	Did the institute works to overcome the obstacles for trainee in training entity?	33	39.3	45	53.6	6	7.1	2.3214	.60442	Seventh
4	Have you trained in more than one section and workshops in training entity?	27	32.1	27	32.1	30	35.7	1.9643	.82792	Ninth
5	Did training period was sufficient for training?	67	79.8	17	20.2	-	-	2.7976	.40419	Second
7	What is range of your scientific benefit from the field training?	62	73.8	16	19.0	6	7.1	2.6667	.60785	Third
8	Did a student worked by himself in workshops of training entity?	39	46.4	45	53.6	-	-	2.4643	.50172	Fifth
9	Did you received your training in your desired training entity place?	30	35.7	32	38.1	22	26.2	2.0952	.78570	Eighth
10	Did you used your mobile phone during training period?	5	6.0	18	21.4	61	72.6	1.3333	.58769	Eleven
11	Did you entrusted with new tasks or duties during the training?	43	51.2	38	45.2	3	3.6	2.4762	.56985	Fourth

Table 5: Ranking of Training events

Order	Paragraphs	Reasons
First	What is your range of commitment with attendance and absence in training entity?	With highly significant level related to student's awareness towards importance of attendance for maximum benefit with the scientific training.
Second	Did training period was sufficient for training?	With highly significant level, that summer period is sufficient for the field training, and suitable to achieve the desired goals regarding the same.
Third	What is range of your scientific benefit from the field training?	With highly significant level with indication that training field achieving all desired goals, which represent in providing a student with scientific experience in labor market's organizations.
Fourth	Did you entrusted with new tasks or duties during the training?	With a medium significant level due to lack of instructor's confidence that trainees may not able to do the new tasks entrusted for them.
Fifth	Did a student worked by himself in workshops of training entity?	With a medium significant level and indication that the task is common between the supervisor, student, and training entity to find suitable mechanism that provide the student with the full opportunity to work by himself in training entity.
Sixth	Did plan of field training was clear and announced from beginning of training?	With a medium significant level, as the reason back to the weak performance of field training office by making its plan announced and clear for the students before training period in the company.
Seventh	Did the institute works to overcome the obstacles for trainee in training entity?	With a medium significant level and indication to weakness of correlation between institute and training entity.
Eighth	Did you received your training in your desired training entity place?	With a medium significant level by not giving a choice for the student to select the targeted entity, which positively reflects student's performance in training entity.
Ninth	Have you trained in more than one section and workshops in training entity?	With a medium significant level related to ignorance of training's supervisor with necessity of diversity relevant to training department for trainee by giving him the opportunity to obtain greatest amount of scientific knowledge.
Tenth	Do you think that field training during summer holiday is suitable?	With a medium significant level, because the reason is back to student's desire to take arrest during summer holiday, and their wishes to travel abroad as well.
Eleventh	Did you used your mobile phone during training period?	With a medium significant level towards commitment of the students during the training period, and to abandon any external factors may hinder the training seriously.

Table 6: The third axe: training events

The third axe: Training events										
Serial	Expression	Significantly		Moderately		Lower grade		arithmeti c average	standard deviation	Rank
		Percentage	Repeat	Percentage	Repeat	Percentage	Repea t			
1	Did the supervisor have highly experience and efficiency required for the training?	77	91.7	7	8.3	-	-	2.9167	.27805	Second
2	Is the training's supervisor following up for the students in work sites is sufficient?	74	88.1	10	11.9	-	-	2.8810	.32579	Third
3	Did the training's supervisor solved the problems might face the student while the training?	75	89.3	7	8.3	2	2.4	2.8690	.40419	Fourth
4	Did the training's supervisor answered the question raised by the student relevant to training direction?	77	91.7	4	4.8	3	3.6	2.8810	.42241	Third
5	Did the training's supervisor was available with the students on daily basis?	51	60.7	30	35.7	3	3.6	2.5714	.56581	Seventh
6	Did the training's supervisor was interested to develop student's level during the training?	76	90.5	5	6.0	3	3.6	2.8690	.43297	Fourth
7	Did the training's supervisor communicated with the students respectfully?	79	94.0	5	6.0	-	-	2.9405	.23802	First
8	Did the training's supervisor owned the required scientific and practical knowledge to answer the student's questions?	66	78.6	18	21.4	-	-	2.7857	.41279	Fifth
9	Did the training's supervisor followed up student's Attendance and leave schedule on daily basis?	56	66.7	22	26.2	6	7.1	2.5952	.62323	Sixth

Table 7: Ranking of The third axe: training events

Order	Paragraphs	Reasons
First	Did the training's supervisor communicated with the students respectfully?	With highly significant level, that training's supervisor have a great amount of responsibility and awareness.
Second	Did the supervisor have highly experience and efficiency required for the training?	With a highly level due to great experiences and knowledge owned by supervisors in training field.
Third	Is the training's supervisor following up for the students in work sites is sufficient?	With a highly level and indication to readiness of training's supervisor to follow up the students during the training period.
Fourth	Did the training's supervisor answered the question raised by the student relevant to training direction?	With a highly level of regular following up for the students conducted by the supervisor, by providing the students with the sufficient time to answer any questions or inquires may be raised.
Fifth	Did the training's supervisor was interested to develop student's level during the training?	With highly significant level as indication to supervisor's feeling of great responsibility towards overcome difficulties and solving student's problems during training period as well.
Sixth	Did the training's supervisor was interested to develop student's level during the training?	With a highly level as indication to supervisor's awareness relevant to need to develop student's practical abilities after the graduation.
Seventh	Did the training's supervisor owned the required scientific and practical knowledge to answer the student's questions?	With a highly level related to the sufficient experience and knowledge owned by the supervisor to answer any various questions may be raised by the students in specialization field.
Eighth	Did the training's supervisor followed up student's Attendance and leave schedule on daily basis?	With a highly level and indication to regular follow up performed by training's supervisor, and his daily existence in training entity, to ensure full benefit of the students during training period.
Ninth	Did the training's supervisor was available with the students on daily basis?	With highly significant level towards his performance for all duties as a supervisor perfectly, which will reflect positively upon student's performance in training entity properly.

X. CONCLUSION:

Upon reviewing the results, we can conclude the following:

1. Training entities have a highly cultured range of commitment with safety and security regulations, and its endeavor towards general appearance of trainees including commitment to wear workshop's uniforms (safety shoes, and boilersuit).

2. Training in workshops of private companies is highly better than training in workshops of governmental authorities.

3. Non-commitment of training authority towards commitment with training programs that agreed upon with the institute, according to viewpoints of the supervisor.

4. Actually, training period during summer holiday is sufficient and suitable according to instructor's opinions, however, the students suggest that the time is not suitable.

5. Instructors suggest that plan of field training is clear starting from training period; however, the students suggested that the matter is unclear and ambiguous regarding the same.

6. Equipment and tools available in training entity is highly devolved in comparison with the other ones owned by the institute.

7. Instructors suggest that there is a highly connection between institute and training authority, as this connection can be represented in overcoming obstacles and solving all problems encountered by students in training authority, however, the student suggested opposite opinion regarding the same.

8. Number of supervisors is insufficient in work site.

9. The student did not give a choice to select his targeted training entity.

10. The student should collect actual benefit from his accompanying for company's technician during the training period, as the technician should provide the student with theoretical information and practical skill.

11. The student has a culture of attendance and leave during the training period.

12. Some students face a problem while communicating with the technician, because he is a non-native Arabic speaker.

13. Training supervisors have a great amount of responsibility, and they own highly efficiency and great experience, by the way urging students for creativity and innovation during training period.

XI. RECOMMENDATIONS:

Based on statistical results collected from study's population, so the following recommendations can be submitted regarding the same:

1. The scientific department should pay more attention and clarification towards the applicant students for the field training, by organizing lectures about organizations of field training, and range of benefit during training period.

2. The scientific department should prepare and coordinate organizing visits for training authorities, and limit the distinct authorities to become the targeted entity for field training.

3. The scientific department should take into consideration student's concerns, and their participation to select their targeted and desired training entity as well.

4. Design common work plan between institute's supervisor of field training and supervisor of training entity to find a flexible plan in which method of training can be diversified, that will provide trainees with the required professional experience during period of field training.

5. The scientific department should coordinate with training authorities to issue approved certificates for the trained students during period of field training, which will benefit them after graduation.

6. Increase number of field training's supervisors by scientific department.

XII. SUGGESTIONS:

The researcher suggests conducting the following studies:

- Conduct similar study for other different specializations in Industrial Institute- Sabah Al Salem and other institute from Public Authority of Applied Education and training.

- Examine aspects of creativity and innovation owned by the students during period of field training.

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