



# **Influence of Industrial Attachment Duration on Employability Skills: A Case of Technical, Vocational Educational and Training (TVET) Trainees in Nairobi County**

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**Abstract:** *Lack of relevant and adequate data on the influence of industrial attachment duration on employability skills development of trainees from Technical, Vocational Educational, and Training institutions and continuous mismatch between the skills demanded by labour market and the acquired competencies by trainees during training in TVET institutions is a problem of global concern. The main purpose of the research was to establish the influence of industrial attachment duration on employability skills development of trainees from Technical, Vocational Educational and Training institutions in Nairobi County. The study was guided by the Educational Theory of Apprenticeship. The study adopted the mixed research methodology and also used the concurrent triangulation design. Using a sample size of 230 participants, questionnaires were used to collect data from the trainees and liaison officers. Interview guides were administered to the industry supervisors, while focused group discussion was used to collect information from the trainers. Findings from the study established that industrial attachment duration, teamwork, decision making, and problem-solving influenced the development of employability skills. However, the duration of industrial attachment had little influence on trainees' production of quality products and provision of services. The study recommended the harmonization of the industrial attachment period with the specific course content. However, the length of attachment should not be less than three months.*

**Keywords:** *Industrial Attachment, Employability Skills, Trainees, Attachment Duration, TVET*

Mwaura, A. N., Mugwe, M., Adabu, P. & Thinguri, R. (2022). Influence of Industrial Attachment Duration on Employability Skills: A Case of Technical, Vocational Educational and Training (TVET) Trainees in Nairobi County. *Journal of Research Innovation and Implications in Education*, 6(2), 281 – 292.

## **1. Introduction**

According to the data availed by the Kenya National Bureau of Statistics, over 86 percent of Kenyan youth aged between 15 and 24 years of age believe that education is the ultimate path to a successful life while slightly below 25 percent hand cited lack of quality education and training as the main challenge in life that led to unemployment (KNBS, 2019). The Ministry of Devolution and Planning (2013) guidelines on youth internship and industrial attachment state that youth

unemployment is created mainly due to a mismatch between labour demands and the acquired skilled competencies by youth entering into the labor market. According to Kenyan economic survey (2011) employment statistics, only 520,000 jobs have been created of which 75,000 (14%) were in the formal sector, and yet approximately above 1million school leavers are channeled out into the labour market every year (MoE Education sector report,2016). It is thus implied that those youth who missed out on employment may have lacked employability skills and qualities needed to have been provided for by training institutions

or were not given equal opportunities to participate in the labour economy.

The scarcity of skilled workers both in the formal and informal sector countrywide, is a growing concern for the Kenyan economy. Considering that 77 percent of the Kenyan workforce is employed in the informal sector (GoK, 2018). Lack of trained personnel in specialized skill areas such as welding and fabrication who were to work with the Standard Gauge Railway could not be obtained locally. This required the country to import skilled human capital who are competent for them to be employed to work with the project. In a rapidly changing world, and in the light of the emerging development agenda, it is anticipated that the skills development process needs to be reviewed and changed to respond to the needs of the world of work. This was one of the main themes during the Shanghai Third International Congress on TVET in the year 2012. The outcome of the congress included the recommendation to support the transformation of TVET policies among the UNESCO's Member States, as a strategic intervention to improve trainees' employability skills.

Kenya does not have a National Skills Development Policy that promises that education and training in the country consistently supply the skills required by the labour economy in the right quantity, the right quality, and at the right time. Accordingly, the Medium-Term Plan III (2018-2022) indicates that a National Skills Development Policy should be developed within the plan period. The frail connection between TVET institutions and industry has contributed to the skills mismatch and unemployment of educated people, amidst skill shortages in the economy (Sessional Paper on Employment Policy and Strategy for Kenya, 2013).

However, the skills mismatch (isolate between the skills produced and those required for the labour market), if left unattended, will hamper the realization of trainees' employability skills. A skilled workforce that meets the demands of a country's labour market is an essential lever in fuelling social and economic development. At the same time, new occupations are emerging in relation to the rapidly changing labour market. This transformation calls for new skills to minimize the potential skills mismatch.

The TVET Act (2013) requires that all TVET curricula integrate industrial attachment at all levels in order to provide relevant skills for job performance and transference of skills in the labour market. Similarly, Sessional Paper on Employment Policy and Strategy for Kenya (2013) recommends that the national internship programme should be integrated in the national training system. The quality of work-based learning has been identified as a major challenge. The majority of trainees undergoing Industrial Attachment lack a context of social dialogue, sound regulatory framework and inherent outlines to ensure labour market significance and inclusivity thresholds. In addition, industrial attachments lack quality standards clearly defined in curricula, assessments, certification and supervision policy procedures (Sessional Paper on Employment

Policy and Strategy for Kenya, 2013). Industrial attachment is a crucial process in the training of technical cadre, as it is meant to develop and enhance trainees' employability skills and is also meant to bridge the gap between institution training and the world of work (Okolocha & Okolocha).

The objectives of industrial attachment were initiated so as to supplement TVET institutions based practical and soft skills training with employability skills after the attachment period. The recruitment agencies for employers the world over require employees who not only have the technical or the hard skills but also possess job-related functional skills (Mohd, 2010). However, research done in Malaysia among industrial workers revealed that TVET graduates lacked the pre-requisite skills for work performance, and do not possess adequate motivation levels to work with confidence after completing their training (Rahim, 2010). The same sentiments were confirmed by Gurvinder (2008) who established that the skills learned by trainees during institutional-based training do not match the skills required in the labour market.

The growing number of graduates from TVET institutions in Kenya without employment is threatening the livelihoods of the youth and their families. This situation has been blamed on inadequacies in their skills training. This results in a skills mismatch between those acquired by trainees while in their respective learning institutions and the skills needed by industry for job performance and employability. The review of the TVET curriculum policy framework to accommodate the industrial attachment component was meant to strengthen graduates' skills gap. However, the effectiveness of industrial attachment practices has not been critically examined. The few studies on industrial attachment have dealt with such issues as quality of industrial attachment and efficacy of approaches used in skills delivery during the attachment period. In addition, there are questions regarding the progress and impact of industrial attachment in the improvement of the industrial skills of the future workforce.

However, there is a lack of assessment and evaluation studies with respect to Industrial Attachment for which is meant in helping trainees in TVET institutions to enhance their employability skills for ease of employment. The accountability, ability, and efficacy of industrial attachment have not been abundantly examined. To date, there is a limited number of studies regarding Industrial Attachment in Kenya such as the Industrial Attachment effectiveness, quality of Industrial Attachment and methods used in training during attachment period. Additionally, there is a concern regarding the progress and impact of Industrial Attachment to improve the employability skills of the workforce and minimize unemployment.

The need for research in this area is critical not only for contributing to the field of knowledge, but also developing strong human capital with competencies that addresses the existing skills mismatch between what is offered in TVET institutions, and the skills demanded in the labour market economy (MOE,2012). Existing local

research and studies are focused mainly on adequacy of training and irrelevance of training equipment and instructional materials, rather than the influence of Industrial Attachment practices on employability skills. Research done by Anido (2015) revealed that the training equipment used in TVET institutions were not relevant to those used in industry. Another study by Mbugua et al (2012) opined that there are inadequate training materials and use of substandard instructional materials and inferior training equipment in TVET institutions. This compromised the relevance of skills required by industries. Njoki (2014) also revealed that most of the TVET institutions in Nairobi region have adequate instructional resources but lack modern technological facilities that match with technology dynamism in industry.

The current study purposed to assess the influence of industrial attachment practices on employability skills of trainees from TVET institutions in Nairobi County, Kenya. The study was guided by a research question; To what extent is the industrial attachment duration adequate in providing trainees with the necessary

interaction and experiences to develop their employability skills?

## 2. Literature Review

The coordination of industrial attachment duration coverage on the acquisition of employability skills is attempted to be achieved through an institutional Industrial Attachment liaison officer (IA coordinator) who is expected to play the role of interacting with different participants during the industrial attachment period so as to facilitate the TVET institutions' Industrial Attachment implementation process. The responsibilities of the industrial attachment coordinator include soliciting for trainees' attachment sites and placement, monitoring and assessment of trainees. The industrial attachment liaison officer works closely before, during and after the industrial attachment period with the following; the industry, the TVET institution and trainees (NITA,2016). Figure 1 shows a description of the industrial attachment coordination structure.

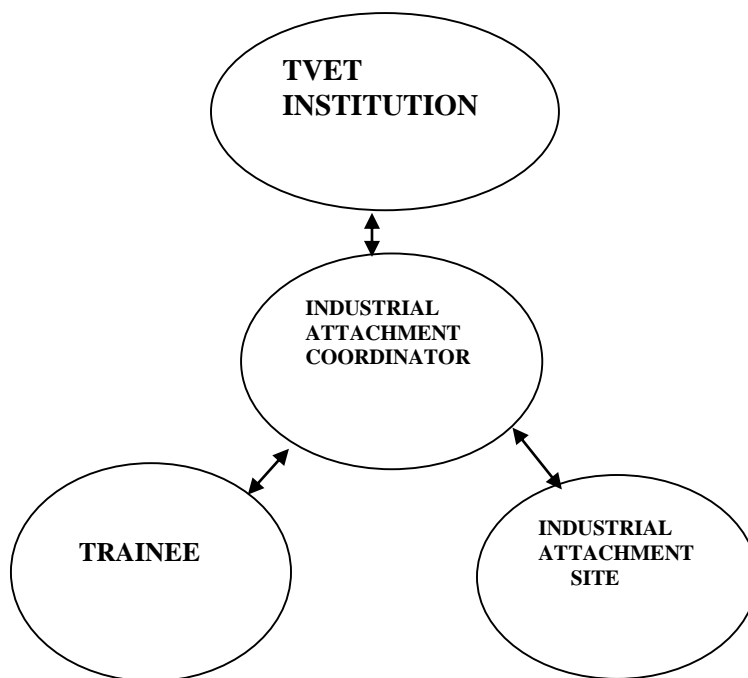


Figure 1: Industrial Attachment Coordination Structure

Source: Researcher, 2020.

Considering that the industrial attachment programme is unlike traditional teaching and learning, this aspect requires some different approaches and effective implementation of TVET institutions' regulations and guidelines (MOE 2013). The TVET institution is part of the structure that houses the industrial attachment coordinator who is supposed to guide the development of industrial attachment and assessment guidelines and provides the timetable for orientation and assessment of trainees during the industrial attachment period. The coordinator further decides on the eligibility procedures for approving IA placement entities and nature of work

tasks given and the time taken to work with the mentor during the attachment period.

The right policy decision on the industrial attachment placement period and the nature of the competencies of the trainees' exposure in industries or placement departments and sections with relevant areas of skills training is paramount in driving the acquisition of employability skills which Azmia, Kamina, Noordina and Nasira (2019) referred to as skills for function ability. These skills require exposure in the workplace for a reasonable period to facilitate the acquisition of

employable skills for job performance and job retention. It is thus, the aspiration of the researcher to seek clarification from the industry on the type of employability skills needed by the industry for the recruitment of new graduates. It also may require the coordinator to do job search and advertisements databases and keep them for comparison analysis and placement (Smith and Ali, 2014).

Yuan (2021) reveals that most of the trainees undergoing Industrial Attachment favored practicum periods oscillating from between six to nine months instead of three months. This showed that trainees under industry placement prefer to have extensive attachment exposure and consider that they can acquire more relevant employable skills within a six-month period as opposed to three months duration. It is observed that the little amount of time the Industrial Attachment takes at no time allows trainees to develop fully functional employable skills.

Further, Muehleemann and Wolter (2020) found that placement periods were too short and that majority of trainees under industrial training reasoned that the best fitting on-job training period should be six months. The researchers reveal that 100% of the trainees anticipated being exposed to real workplace experiences, especially in the industries and that there is a correlation between the duration of industrial training and achievement of industrial attachment objectives. The trainees who endured 6 months of industrial attachment, fully claimed that they realized the objectives that they had expected. A different group that had undergone shorter periods of IA reported the objectives were not fully achieved due to time limitations.

A similar study by Yusof, Mohd Fauzi, Zainul Abidin, and Awang (2013), regarding industrial attachment length, recommended that the duration of practicum of three months was too short and should be extended to six months to allow trainees to develop their skills more adequately. Phang et al (2014) found that the shorter length of the internship was not viable for experts to let the trainee handle a project more expansively; a longer period would give the trainee more time to explore and experience working on the production site. The prolonged time would help the students use and extend their knowledge and help them to gain maturity in decision-making processes.

The research work was guided by the educational theory of apprenticeship. Successful skills improvement through industrial attachment (apprenticeship scheme), involves the trainee being engaged in practical exposure so as to become a master of the specialized area of professionalism. This requires the trainee to be active, social, and reliable while in the attachment (Pratt 1998). These requirements lead to learners' greater understanding of the job he/she is being exposed to and enhance job placement prospects.

The apprenticeship skill training includes the improvement of learning contexts that model

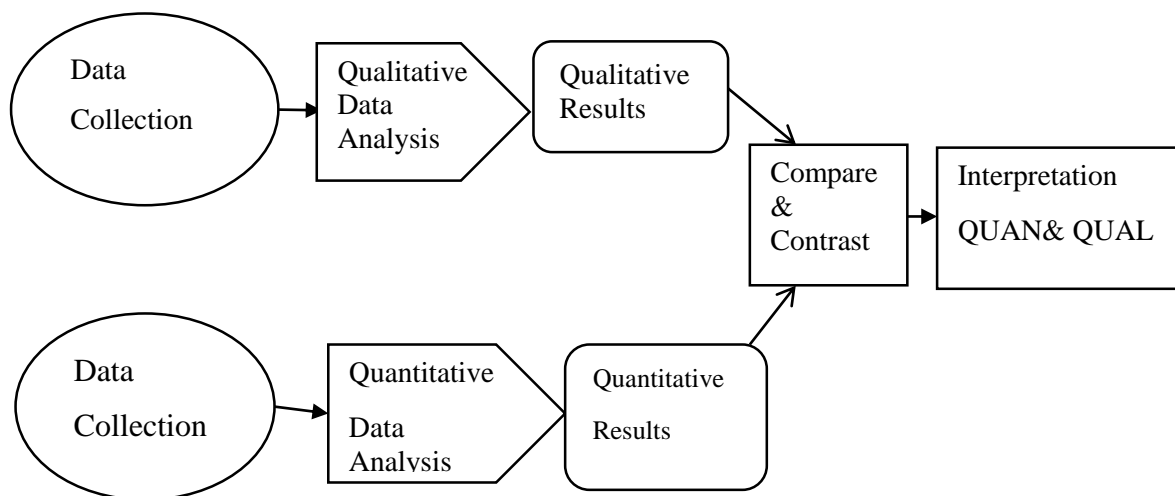
proficiency, providing coaching and scaffolding as trainees become immersed in authentic activities and independent practice so that they gain an appreciation of the work-related competencies (ILO, 2018). Apprenticeship is a method of instruction used by industry supervisors in imparting skills to trainees for specific tasks performance to deal with challenging work situations at the workplace. This method of training enhances trainees' employability skills. An apprenticeship is an all-inclusive approach to demonstrating skills training and involves the development of skills by both the trainee and the trainer (Muehleemann, 2013). The trainee develops employability skills that are applicable in the industry and become more proficient in performing similarly to their trainers. Once this is recognized by the trainer, the trainee is given tasks to perform with minimal supervision.

### 3. Methodology

The researcher used a mixed methodology, which involves the collection or analysis of both quantitative and qualitative data in a single study. The data are collected concurrently or sequentially, are given priority, and involve the integration of data at one or more stages in the process of research (Creswell, 2014).

The design adopted by the researcher was the Concurrent Triangulation Design. This design was chosen on the basis that it allows the collection of both qualitative and quantitative data done simultaneously and permits the mixing of both categories of data (Creswell, 2003). The participants were given all the instruments at the same time for quantitative and qualitative data. This involved concurrent data gathering but detached collection and analysis of quantitative and qualitative data was done so that the researcher was able to understand the problem better. In the concurrent design, data were analyzed quantitatively and qualitatively then results were mixed and compared. The design improved the procedure of different data collection and facilitated the researcher in harmonizing data on the same issues to understand better the research problem (Mugenda and Mugenda, 2010). The quantitative research method emphasized large samples and provided an overview of an area that can reveal patterns and inconsistencies. However, this was further investigated with a qualitative methodology by quantifying qualitative findings.

The benefit of Concurrent Triangulation Design is that it provided more binding and sound authenticated decisions about the research problem. The analyzed data were provided by industry supervisors using interview schedules whilst industrial liaison officers and their deputies, 2<sup>nd</sup> and 3<sup>rd</sup> years TVET diploma trainees gave their views through the administered questionnaires. The focus group discussion schedules were used to collect information from the TVET trainers. Figure 2 shows the concurrent triangulation design.



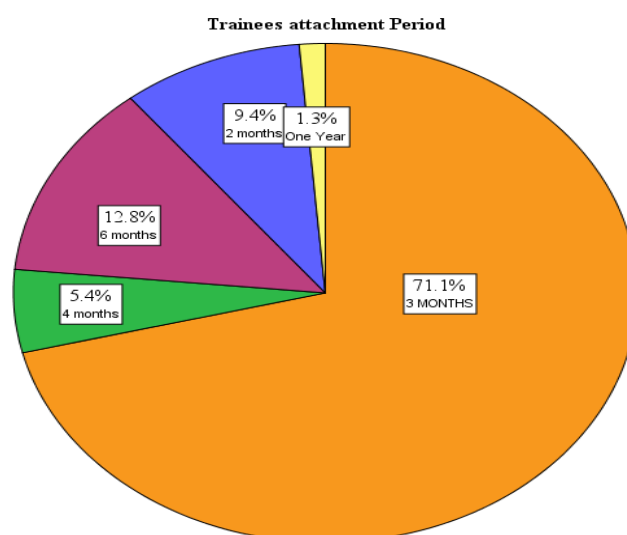
**Figure 2: Convergent model of a Triangulation Research Design**

The target population was 3,940 participants. These included 3,480 trainees, 174 liaison officers, 261 trainers, and 25 supervisors. The sample size was 230 participants. These were: 180 trainees, 20 liaison officers, 10 industry supervisors and 20 trainers. Random sampling was used to select the trainees and the trainers, while purposive sampling was used to select the liaison officers and the industry supervisors. Questionnaires were used to collect data from the trainees and liaison officers. Interview guides were administered to the industry supervisors, while focused group discussion was used to collect information from the trainers. The instruments were piloted in two Technical, Vocational Educational and Training institutions which were not included in the final sample. Ten trainers were sampled from each college and twenty liaison officers from each of the institutions. The piloting sample used was 22 participants representing 10 % of the total sample. The researcher requested experts to examine instruments for validity and used test-retest method to establish reliability. Stratified random sampling was used to obtain proportionate samples from both public and private Technical, Vocational Educational and Training institutions. Questionnaires

were used for data collection. Questionnaires were content and face validated, then reliability was determined using Cronbach's alpha. Data from questionnaires was analyzed using descriptive and inferential statistics. Cronbach's Alpha Coefficient was used to establish the reliability of the tools. Alpha value of 0.800 was achieved and the tools were judged reliable. Concurrent triangulation was used to ensure credibility. An in-depth interview was used to test dependability of qualitative instruments. Quantitative data was analyzed using descriptive and inferential statistics (the Chi-square test) and presented in tables, frequencies, percentages. Qualitative data was presented thematic through narrative and analysis.

## 4. Results and Discussion

The researcher asked the participants in the questionnaire to choose the duration of the industrial attachment coverage between, 2 months, three months, four months, six months, and one year. The results were shown as indicated in figure 3.



**Figure 3: Duration of IA**

Figure 3 shows that the majority of the trainees 106 (71.1%) had been in attachment for 3 months. Others 19(12.8%) for 6 months, and some 14 (9.4%) 2 months while 8(5.4%) had four months and lastly, 2(1.3%) had one year. This implied that most attachments, unfortunately, ran for at least 3 months. Results from an interview with the industry supervisors revealed that the number of trainees absorbed by the industry varied between 10 and 100, depending on the size of the

industry. The majority of the industry did not pay stipends to the trainees. The majority of the industrial supervisors felt that payment of stipends to trainees did not increase their interest in training or performing better at the attachment.

The study entailed examining the trainees' responses on the influence of IA duration on their employability skills. The results are presented in Table 1.

**Table 1: Trainees' responses on the influence of IA duration on their employability skills**

Statement	Strongly Agree	Agree	undecided	Disagree	Strongly Disagree
Industrial attachment duration coverage facilitated TVET trainees with employability skills	73 (49%)	60 (40.3%)	6 (4%)	3 (2%)	7 (4.7%)
Industrial attachment duration coverage enabled trainees with skills for timely task completion	68 (45.6%)	65 (43.6%)	14 (9.4%)	1 (0.7%)	1 (0.7%)
The length of placement during industrial attachment enhanced TVET trainees with skills for the production of quality products and services	56 (37.6%)	61 (40.9%)	23 (15.4%)		9(6%)
The industry supervisors mentoring period for trainees enabled them to practice skills for improved creativity and innovations	66 (44.3%)	57 (38.3%)	13 (8.7%)	2 (1.3%)	41 (7.4%)
The TVET trainees' departmental rotation within the placement industry during IA period equipped trainees with skills for better maintenance of workplace environment	54 (36.2%)	65 (43.6%)	26 (17.4%)	1 (0.7%)	3 (2%)

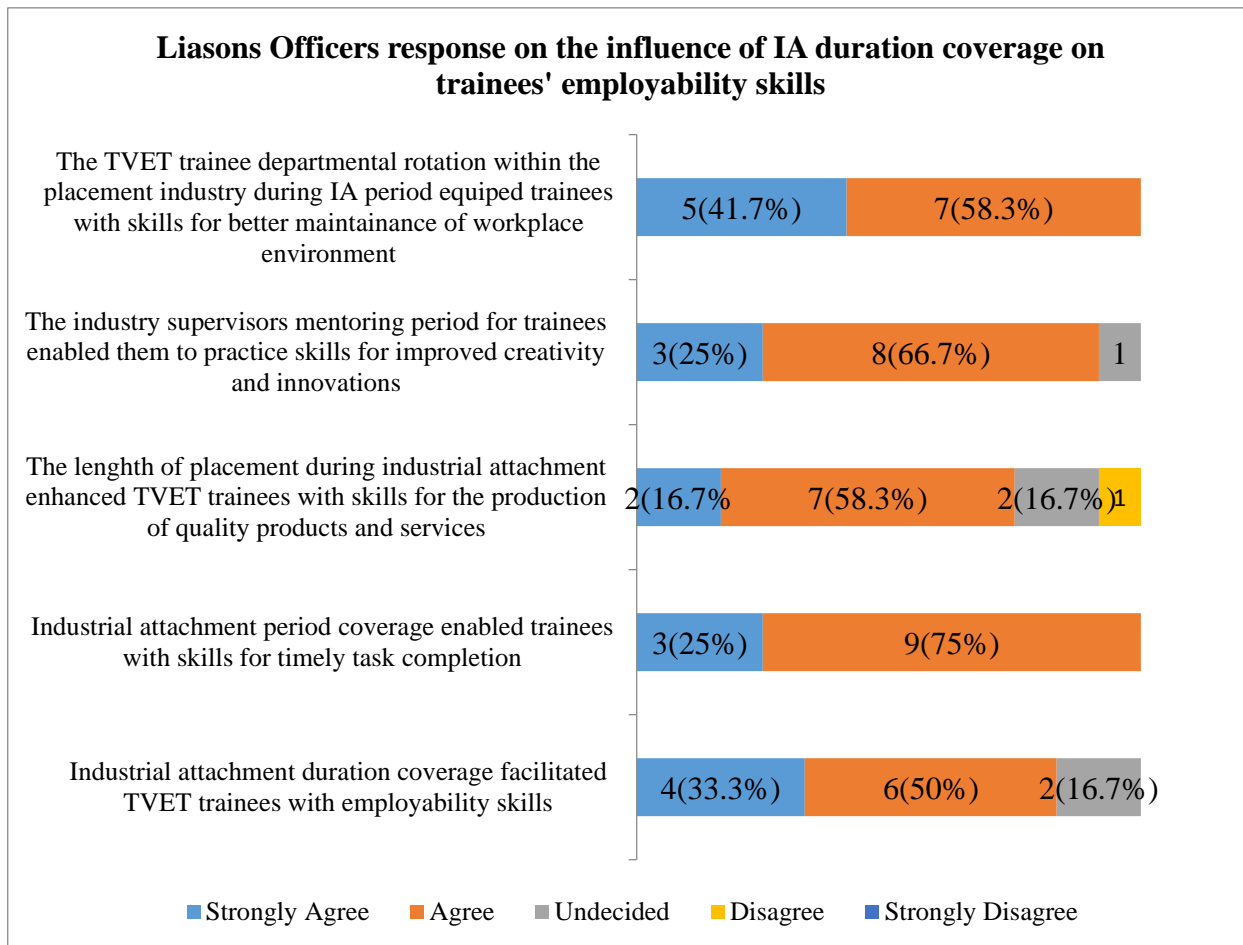
**Source: The researcher, 2020**

Table 1 shows that the majority of the respondents 73 (49%) strongly agreed and 60 (40.3%) agreed that the industrial attachment duration coverage influenced the development of apprentices' employability skills. The

combined number of those who agreed and strongly agreed was 133 (89.3%) which was a high percentage. These results agreed with research by Mihail (2006) who revealed that most of the trainees undergoing

Industrial Attachment preferred practicum periods oscillating from between six to nine months instead of three months. Further, Oliver (2010) observed that the more time one takes during the Industrial Attachment the more trainees develop fully functional employable skills.

The study examined the influence of IA coverage on the employability skills of Trainees through questionnaires with the Industrial Attachment Linkages officers. The responses from the liaisons officers were sought and presented in figure 4.



**Figure 4: Duration of IA coverage and trainees' employability skills**

Figure 4 shows that the majority of the respondents 9 (75%) agreed that the industrial attachment period enabled trainees to acquire skills of timely task completion and improved creativity and innovation respectively. Most 7 (58.3%) agreed that industrial attachment duration boosted learners' skills for better maintainance of the work environment and production of quality services and products.

The researcher conducted the chi-square test to examine the influence of industrial attachment duration coverage on the development of employability skills of the trainees. After keying in the participants' responses in SPSS in the Chi-square test, the average result was 0.9584. This outcome was greater than the  $\alpha$  value which is normally 0.05. The variables related were the participants' responses to this third objective. This is shown in table 2.

**Table 2: Chi-square test of independent analysis**

Test Statistics					
	TRAINEES AGREED	TRAINEES STRONGLY AGREED	TRAINEES UNDECIDED	TRAINEES DISAGREED	TRAINEES STRONGLY DISAGREED
Chi-Square	.600 <sup>a</sup>	.000 <sup>b</sup>	.000 <sup>b</sup>	.000 <sup>b</sup>	.600 <sup>a</sup>
Df	3	4	4	4	3
Asymp. Sig.	<b>.896</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>.896</b>

a. 4 cells (100.0%) have expected frequencies less than 5. The minimum expected cell frequency is 1.3.

b. 5 cells (100.0%) have expected frequencies less than 5. The minimum expected cell frequency is 1.0.

From table 2, a Chi-Square test value of 0.9584 or the p-value based on the chi-square approximation which is obtained by calculating the average p-value ie (0.896+1+1+1+0.896/5 where 5 is frequency of responses provided by the trainees' participants). The p-value or the sample mean was greater than the alpha ( $\alpha$ ) value of 0.05. Therefore, there was a significant association between the attachment duration coverage and the development of employability skills of the trainees.

**Supervisors' Interview Schedule Outcomes (ISa, ISb, ISc, ISd and ISe)**

During the interview industry supervisors observed that the influence of industrial attachment duration had little influence on the quality of products and services, while it had a fair influence on better maintenance of the workplace environment and creativity and innovation development. The duration of IA however, had a high influence on timely task completion. The time factor has always been an issue as one supervisor observed,

*“When trainees come for industrial attachment, they pick up effective employability skills gradually, and towards the end of the attachment, they are able to demonstrate more creativity, better time management skills, and confidence in accomplishing of tasks. However, we may not stay with the trainee as long as we would have wished to do. Before we notice it, time for the practicum is over and off they go either back to the college or out for job searches (ISa)”.*

It was not in dispute a longer duration of industrial attachment was necessary for better achievement of training objectives. Another Supervisor observed:

*“Placements in industries are very necessary as part of training. There*

*is no way one can avoid this. All apprentices must pass through real job situations for a certain period of time. And of course, we can't keep the trainees forever in attachment but a longer period will produce better results. If we expose the trainees in attachment for too short a period, the outcome also is minimal. I suggest a longer period of attachment for all trainees before they are licensed to practice (ISe)”*

The duration of industrial attachment depends on various courses and so it may not be easy to say how long should trainees stay. Duration of three to six months depending on the course curriculum can help trainees apply their theoretical knowledge acquired during institutional-based training as one supervisor opined:

*“I think the question of how long trainees should take is still a big issue that requires policy intervention. It is worth noting that different training programmes recommend a specific length of industrial attachment. However, a period of three months to six months could be enough. But don't talk about weeks; it may not benefit the trainees but the longer the better (ISc)”*

The duration that trainees take is meant to sharpen their skills as they prepare for the real world of work, they have to cover a specific time as stipulated by the curriculum so that they are able to face job markets with confidence. It is the time for simulation as one supervisor (ISb) observed,

*“We need to see students do a kind of simulation in their fields of*



*study. The best way to do this is to have a particular time set for them in the industries during the attachment. Here, they do all the necessary practicum before they graduate into the job market”.*

As observed from Railway Training Institute IA logbook, the key skills assessed during the attachment period includes and are not limited to; quality of work, job productivity, and performance.

According to the industry supervisors, the recommended duration of placement for every course should be a minimum of three months with a full report from the attachment industry. Any candidate who fails to complete the stipulated period of time, he or she should not be allowed to graduate. This was echoed by another of the supervisors (**ISd**):

*“A placement of one month for any course could be too short for proper coverage of skills exposure. I believe that a minimum of three months of practicum could be a reasonable time to enable trainees to gather practical experience. And should a trainee fail to complete the agreed period of practice, there should be no graduation for them. Indeed, not only completing the course but also passing practical examinations in the field is necessary.”*

From the sentiments of the supervisors, it was imperative that trainees cover a certain duration in the industries. They should be exposed to real work situations for months before they proceed to the next module, graduate, or go back for further studies in their TVET colleges. This, no doubt, enhanced the candidates’ employability skills for the job markets as they came out of college fully prepared and ready for work challenges. Another supervisor (**ISc**) observed,

*“When trainees come into the industry, they spend a reasonable duration on hands-on practices and exposed to work environment. This is very important since it gives them the real experience of the type of work, they are to do in the real job situation. Without this kind of exposure, the apprentices would land into serious problems once they come in the field of work. Let us give them this chance to mix with us and get whatever experience they can from us in the duration they are in the practicum. Actually, the longer they stay with us, the better”*

### **Focus Group Discussions**

All the participants from the three TVET institutions the researcher administered the FGD, agreed that the three months period common for most of the TVET training curricula set for industrial attachments was inadequate and not sufficient to offer trainees enough time to effectively enhance their employability skills. Participants however noted that the period was enough to impact the trainees with skills in teamwork, working with minimal supervision and problem-solving. During the discussion, some participants pointed out that the attachment period was not enough for some trade skill areas. One such participant (**KT02**) observed:

*“Industrial attachment duration coverage enables trainees to acquire employability skills because the period is fairly adequate for ease of integration to the working environment and skills acquisition. However, the period for this kind of attachment may not be sufficient to enable full-filled practice in the other courses trainees take”*

Another participant (**NT01**) observed that:

*“Industrial attachment duration enables trainees to acquire employability skills because the period is fairly adequate for ease of integration to the working environment and skills acquisition. The trainees should have adequate time in the attachment to enable them to acquire necessary experience adequate for real work situation once they graduate”*

From the interviews and group discussion, the duration of industrial attachment influenced trainees’ employability skills. This was supported by another participant (**KT02**):

*“No doubt, the time trainees spend in attachment is not in vain since it adds up to valuable employability skills once they graduate from TVET institutions. Actually, it should be mandatory that they come out of TVET institutions to a real work environment which propels their ability to become experts in their respective fields”*

The duration of industrial attachment covered by TVET trainees in the industry is supposed to facilitate them to meet any problems in real job situations. So, this period is the most important in the whole training regime. Often times industries find themselves with challenges especially those related to modern technology. Attachment time is the period used to iron out all issues. One trainer (**BT01**) observed

*“Real work situations in the industries are faced with a lot of challenges given that modern technology is available. There are also issues of management of human capital that trainees must be exposed to before they graduate. They can rotate within and across departments in the industries during attachments and acquire a wealth of skills as they interact with their colleagues”*

The attachment duration is likened with training somebody to swim by having him get into the water, but under guidance. This way, the person learns through experience under the instructions of the trainer or instructor. One can learn theory in class then go into the swimming pool with his instructor. One trainer (KT04) Observed:

*“Take an example of swimming lessons. There is the theory in the classroom then practical exposure in the swimming pool. What is learned in class can only make sense if it is ever applied in the swimming pool. This pool is like the industrial attachment experience trainees undertake for a certain period of time and is very useful to them for the future employment”*

There was also a comparison with the driving schools. There is always the theory and driving a toy car on the table. There was the Highway Code that has to be mastered by all the trainee drivers. Then, road driving practices where trainees drive with the guidance of an instructor follow. Another trainer (KT01) commented,

*“The duration of industrial attachment is like what driving instructors do. They give a lot of theory to the driver trainees even using vehicle toys. This is done extensively even before the trainees go for the road practice. It is dangerous to use roads without enough theory and related practical simulation. The instructors then accompany their students in the practicum. This duration is not in vain just as our industrial attachments are not in vain”.*

## 4.1 Discussion

Descriptive statistics analysis revealed that the majority of the apprentices 106 (71.1%) had their industrial attachment for 3 months while others, 19 (12.8%) were attached for 6 months. Fourteen (9.4%) went on attachment for 2 months, whereas another 8 (5.4%) were out for four months, and finally, 2 (1.3%) went on

attachment for one year. These responses show that the majority of the trainees were out on attachment for at least three months. Most of the Liaison officers (9 or 75%) agreed that industrial attachment allowed the apprentices to acquire skills in timely task accomplishment and enhanced inventiveness and innovation significantly. Seven (58.3%) agreed that the attachment period improved apprentices' skills for healthier preservation of the work environment, the creation of excellent services, and quality goods production. It was observed that the longer the period of attachment the better the results for the trainees' achievement of employability skills. Yuan (2021) added that there is a correlation between the duration of industrial training and the achievement of job-specific skills. This confirmed results by Azmia, Kamina, Noordina and Nasira (2019) who revealed that the industry placement period of three months was too short and that majority of trainees under industrial training reasoned that the best fitting on-job training period should be six months.

The Chi-square test of independence indicates that there was a significant relationship between industrial attachment duration coverage and employability skills. The results from the SPSS in the Chi-square test indicated averaged outcome of 0.9584. This was greater than the  $\alpha$  worth which is normally 0.05. From what was established, 0.9584 was > than  $\alpha$  value of 0.05. Consequently, there was a significant association between the attachment duration coverage and the acquisition of employability skills of the trainees.

Looking at the thematic analysis, the supervisors opined that the practicum duration had some effect on the trainees' skills acquisition. It had also a reasonable impact on the effective maintenance of the workplace environment. The industry supervisors observed that the attachment duration was critical in facilitating skills development. The discussion group had similar sentiments. Most of the participants were of the opinion that the three months period which most trainees underwent for industrial practicum was too short and inadequate to give the apprentices the opportunity to efficiently improve their employability skills. However, they noted that the period was enough to influence the trainees' skills in team working and working with minimum supervision among other things.

Through the discussions, a number of participants pinpointed that the industrial attachment was not adequate for some trade skills. The duration covered by TVET trainees was absolutely necessary. It corrected any projected hitches in the actual work circumstances. Subsequently, this period was the most important activity in the whole TVET curriculum. Analyses of data arrived at some common conclusions. The duration covered in industrial attachment by the TVET trainees was crucial to their entire training. Without adequate exposure, trainees would find themselves with big problems in adjusting to the work environment in the industries. The issue in support of a longer period of attachment was advocated by the study by Yusof, Mohd Fauzi, Zainul Abidin, and Awang (2013), regarding

industrial attachment length of placement, recommended that the duration of practicum of three months was too short and should be extended to six months to allow trainees develop their skill more adequately.

On the question of the length of the period trainees spent out in the field, it was a consensus that the longer the period the better. This would enable the trainees to maximize their potential.

## 5. Conclusion and Recommendations

From the findings, most trainees had had an attachment for 3 months; a smaller number had 6 months. Results from an interview with the industry supervisors revealed that the number of trainees absorbed by the industries varied between 10-and 100 depending on the size of the industry. Most of the industries did not pay the stipend to the trainees. The majority of the industrial supervisors felt that payment of stipends to trainees did not increase their interest in training or performing better on attachment. Keeping trainees for a longer period and remunerating them would be a motivating factor for them to perform better even when their placements ended.

Most of the trainees agreed that the industrial attachment duration impacted positively on their employability skills. They found that the length of the attachment period enabled them to practice skills for improved creativity and innovations. The longer the practicum the better their results. This was supported by the liaison officers who felt that the longer duration covered by the trainees the better their skills became.

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There was a significant relationship between the duration coverage and the employability skills of the trainees according to the inferential statistics. The Chi-square results were larger than 0.05 to prove the association between the variables.

The duration is taken by the trainees in attachment always gave them the opportunity to practice their skills and gain confidence. In actual fact, too short a period was not good enough for the trainees as was expressed by the supervisors during their interview. The length of the placement was still an issue to be discussed among TVET colleges depending on various courses. There is no trainee who should graduate before going for attachment and passing the assessments. This was according to the interviewees.

The discussion group of trainers agreed that meaningful duration was necessary for better skills. All trainees should get adequate placement before they graduate according to the group members. The duration taken in attachment is not in vain since it gives hands-on experience on the job. The duration gives trainees the opportunity to interact with people and modern equipment. This is the only period the trainees exercise their learned theory and apply it to practical use. It is the duration to drive the real vehicle after driving a toy car on the table as it was said by the trainers. The duration taken for industrial attachment should be commensurate with the type, of course, TVET candidates are taking. Some courses demand longer attachment periods than others and the vice versa

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