

Implementation of the Kirkpatrick Model as an Evaluation of Basic Technical Skills Training Programme at Lion Group Training Center

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Abstract:- This study aims to see the effectiveness of training methods conducted by Lion Group Training Centre to prospective employees and the impact of training provided to participants as a measure of performance when the trainees have become employees. The population of this research is employees of Batam Aero Teknik who conducted Basic Technical Skill training at Lion Group Training Centre, with a total of 5 respondents. Kirkpatrick training evaluation model consisting of level 1 (reaction), level 2 (learning), level 3 (behavior) and level 4 (result) with data analysis method using NVivo software. The results of the study state that the participants' reactions affect the effectiveness of training, all trainees experience changes from before training to after training is almost complete. The attitudes and behaviors affect the effectiveness of training, which will also affect employee performance. As well as the result of the effectiveness of training in the form of a consistent and even increasing company existence which can be seen from the number of passengers each year.

Keywords:- Training Evaluation, Training Effectiveness, Kirkpatrick.

I. INTRODUCTION

The development of the aviation services industry in Indonesia, especially those related to commercial aviation, has been busy since the issuance of air transport deregulation in the form of several deregulation packages in 1999. Decree of the Minister of Transportation No. 18 of 2004 on the Establishment of airlines in Indonesia is one of them. Competition is quite intense due to the large number of airlines operating in Indonesia. Despite the pressure of rising fuel prices, the national aviation industry continues to grow rapidly because air transport (aircraft) has a higher level of safety and security than land and sea transport. Rapidly developing aviation science and technology can improve the quality of flight services and create sophisticated and diverse aviation equipment. The development of aviation technology has a positive impact that must be prioritized in the world of aviation, namely domestic and foreign safety factors. Aviation safety is a prerequisite for meeting security requirements when using aircraft, airspace, air traffic control and other supporting services.

Airline Standard Operating Procedures (SOPs) must receive special attention because the development of aviation industry technology affects the risk of air accidents in the world of aviation. All technology developed requires human power in its control. And the fulfilment of high safety standards is an absolute must. So that the workforce in the aviation sector needs to be equipped with knowledge and knowledge of the technology used in the aviation system in accordance with the Standard Operation Procedure (SOP) which refers to the rules of the International Civil Aviation Organization (ICAO). The company can organize training for its human resources to master the material, science, and knowledge of the aviation field to reduce the level of aircraft accidents as little as possible. The skills and welfare of Human Resources (HR) can be improved through training. Training is essential to support skill development activities and is an important part of human resource management.

Human resources (HR) are an important resource for companies that are irreplaceable. Without labor, the company cannot do all its business. The role of Human Resources (HR) in an organization or company is the key to the company's success. Competent and strategic human resources provide added value as a measure of the company's success. Basically, the training organized by the company provides assistance to its employees to improve work skills and foster understanding of their status and company goals. This is in accordance with the opinion of B. Siswanto in Suwanto and Piansa (2013) that, to develop and improve the quality of abilities related to work ability, knowledge, attitudes, skills and skills, the most important thing is the need for education and training. This statement contains the logical consequence that the interests and objectives. The company will be achieved when the performance of existing human resources is adequate.

Lion Group Training Center is a training institute under Lion Group which is engaged in aviation services and manufacturing of aviation and aerospace components, established on 29 January 2016. Lion Group Training Centre is equipped with international standard learning facilities, professional instructors, and a friendly environment where service, security and safety are also a priority, which has produced many of the best graduates. To determine the results and effectiveness of an activity, especially a training and development programme, it is necessary to evaluate the training programme because organizational training evaluation is a necessary strategy to ensure the quality of training activities in the organization. Training evaluation refers to the process of confirming that a person has achieved competence in

accordance with the needs of the company. What is done in the workplace, referring to the knowledge, skills and attitudes required for workers to do their jobs, can be called competence (Sofo, 2003). Therefore, according to Kirkpatrick (1994), the purpose of training evaluation is to determine the effectiveness of the training programme. It does not only compare the ability of participants before and after training (*pre-test* and *post-test*). And the effectiveness of training depends on how well the training programme can achieve what has been set as achievable goals. Because the purpose of evaluation is to obtain accurate and objective information about the planned and implemented programme. This information can include the process of programme implementation, the impact or results achieved and the effectiveness of training activities. The results of the evaluation can be used as an indication of the success or failure of the programme, whether it can be continued or stopped, and as a basis for further programme development.

The Kirkpatrick evaluation model identifies evaluation into four stages of assessment, namely: Reaction, *Learning*, Behavior, and *Result* (Kirkpatrick D, Kirkpatrick J, 2006). At the reaction evaluation, evaluators assess participants' responses to the quality and relevance of the training programme. At the learning level, evaluators assess the extent to which participants gain knowledge, skills, and attitudes from the learning process. At the behavior level, the extent to which participants apply knowledge and skills in their work will be assessed. While at the result level, the effect of training on organizational and individual performance will be assessed (Kirkpatrick D, Kirkpatrick J, 2006).

Training evaluation is very important to determine the effectiveness of training to mechanics who have been given training on Basic Technical Skill, which is considered as a basic knowledge and skills programme, where this programme provides training for future factory mechanics. This is one of the company's ways to get high quality mechanic seeds. The training lasted for 3 months, 1.5 months of which were face-to-face classes and 1.5 months of on-site training. The result of this programme is that the students move up to the higher position of mechanic. Aircraft mechanics or technicians have a big role in the world of aviation. Aircraft need to have their engines checked regularly so that they meet flight requirements. Checking is not only done weekly or monthly but checking the state or condition of the aircraft engine must be done regularly before and after the flight. Aircraft mechanics have a heavy responsibility, namely as people who act to support the safety of aircraft.

II. LITERATURE REVIEW

Suparno Eko Widodo (2018) which states that the main objective of a training program is to increase employee competency to enable them to perform better in their organization. Then it is reinforced by the statement of Dale S. Beach (1975) which suggests that the purpose of training is to obtain training that can change a person's behavior. Suparno Eko Widodo (2018) concludes that the purpose of training is to be able to change a person's behavior by increasing the knowledge and skills that exist in him so that it can be useful for his life. Yetti Nurhayati (2018) which states that there are 5 steps taken in evaluating this level 2 (learning), namely: (i) Evaluate related to increased knowledge, skills, and changes in attitude before and after training, (ii) Measuring attitudes

using tests that have been agreed upon by the indicators, (iii) Measuring knowledge using pre-test and post-test, (iv) Measuring skills using performance tests and (v) The results of these measurements to carry out appropriate actions.

Zare & Vizesfar, 2019 states that at the "Kirkpatrick Model" level, many volunteers are satisfied with their current employer (56.8%). Therefore, the "Kirkpatrick Model" for evaluating educational programs, is suggested. Jones et al., 2018 stated that Kirkpatrick's model is an appropriate framework for evaluating nursing training programs, but it is very important to evaluate all levels of the model to be able to ensure the success of the training and its impact on clinical practice. Supriyati & Abraham, 2021 stated that the Kirkpatrick evaluation model with the development of RoTI calculations can ensure that the funds used are truly accountable. The results of the analysis are not very in-depth without comprehensively using Kirkpatrick's evaluation theory. Shodiq, 2021 stated that the research results illustrated that the evaluation of the Kirkpatrick model in the Public Ethics Training Subject obtained an effective value

Suwarnin et al. (2020) which states that assessing learning/training outcomes can be done with a comparison group. The group that took part in the training and the group that did not take part in the training compared their progress over a certain period. It can also be done by comparing the results of the pre-test and post-test, written test, or performance test. Suwarnin et al. (2020) also said that the evaluation at level 3 (result) or what is called an evaluation of my behavior is different from the evaluation of attitudes at level 2 (learning). Attitude assessment at level 3 evaluation is focused on assessing the behavior of the training participants after completing the training. So that this behavioral assessment is external because what is assessed is a change in behavior after participating in training activities and returning to their environment, this level 3 evaluation can be referred to as an evaluation of the outcomes of training activities.

Wartaningih (2021) states that the evaluation in the fourth stage is focused on the final stage which aims to determine the impact of changes in the work behavior of the training participants on the level of company productivity that occurs because the participants have participated in a program. In this case, it is included in the result category which is the target of evaluation of the training program including production improvement, production increase, cost reduction, turnover reduction, and profit increase. Several programs have the goal of increasing work morale and building better teamwork. Chao et al., 2018 in his research showed that the satisfaction level of senior citizens at all three levels was higher than 4.0. In addition, the highest average satisfaction level is 4.89. These findings suggest that senior citizens provide favorable quantitative judgments.

III. RESEARCH METHOD

This research is qualitative research with an interpretive paradigm, where researchers interact directly with subjects in the field in a value-bond relationship, the research process is cyclical (non-linear) with the aim of developing theory and results or observations. And the use of a narrative research

strategy or design which is a narrative story that tells the sequence of events in detail. This Kirkpatrick model training evaluation uses *purposive sampling* technique in determining the number of research respondents. The *purposive sampling* technique is a method of collecting illustrations without being based on random, regional or strata, but rather based on the existence of views that focus on specific goals (Arikunto, 2016). The data analysis technique used in this research is the Miles and Huberman model data analysis technique. Data analysis is carried out during data collection, and after completion of data collection within a certain period. During the

interview, the researcher has analyzed the interviewer's answers.

By conducting field visits to the Lion Group Training Centre according to the description of the social situation, then collecting data sources from LGTC in the form of *student comments* or questionnaires and exam results in the form of *pre-test* and *post-test*. Then the researcher conducted interviews with informants in each company where participants worked. The next step is for researchers to conduct interviews according to the interview protocol, as follows:

Table 1 Interview Protocol

Interview Protocol
Opening
Introduction of interviewer and interviewee
Outline of the research process
Outline of research objectives, aims and objectives of interviewee selection
Discussion of potential research outcomes, ethical issues, and approval of interview/focus group structure outline
Questions
1. Do you prioritize <i>safety</i> in doing your job?
2. Do you in your work follow procedures in accordance with the <i>Maintenance Manual Book</i>
3. Do you carry out and complete your work in a timely manner?
4. Have you received any <i>complaints</i> about the work you have done?
5. Since first returning to the company after training at LGTC, has there been any improvement in completing work tasks?
6. How is your creativity in the implementation of daily tasks in the work environment?
7. Do you have an initiative attitude while in the work environment?
8. Do you have a tolerant attitude towards colleagues and superiors at work?
9. What do you think are your strengths and weaknesses in carrying out your work?
10. Overall, you would rate what/how much for brother
11. Based on the scores given, do you think the basic technical skills training at LGTC has been effective?

After conducting in-depth interviews, the researcher confirmed the correlation of informants' answers to see the level of linearity. If there are answers that are outside the research focus, the data will be reduced. By using NVivo, the interview transcripts of the informants had a *Pearson Correlation Coefficient*, which was then made into a word tree to make it easier for researchers to read the results of this study. High validity was achieved because the research team could efficiently conduct the analyses in NVivo. In addition, NVivo provides researchers with the largest possible workspace in NVivo to support the validity of qualitative research. Therefore, NVivo is powerful for data triangulation and triangulation of NVivo researchers to help researchers create reliable qualitative research. And the qualitative data management process in NVivo is essential for analyzing qualitative data effectively and efficiently (Bandur, 2019).

IV. RESULT AND DISCUSSION

The research strategy taken is a case study of the largest private airline company in Indonesia which has a large operational experience each year compared to other companies. Where the research respondents are one of the supporters of the continuity of flight operations. Hopefully, with this case study, the training evaluation will run in a directed manner so that it can be a measure of the effectiveness of the training itself. The research began by looking further at how the effectiveness of

basic technical skills (BTS) training from the perspective of respondents and informants and how informants assessed the respondents as workers. Based on all the criteria set by the researcher, in the end there were 5 (five) participants who were willing to be respondents in this study and for key informants, the researcher took the group leader of each trainee when they returned to their company because the group leader knew the work and performance of the participants since they had not received BTS training until 8 months after BTS training at LGTC. The main benchmark is the performance of the participants themselves from before the training until they return to the company.

A. Level 1 (Reaction)

At level 1 (*reaction*), the researchers conducted a field visit to the Lion Group Training Centre located in Balaraja then the researchers' made observations and collected data in the form of *files* containing *student comments* or questionnaires of *basic technical skill* (BTS) batch 17 training participants owned by the Lion Group Training Centre. The following is a diagram showing the results of the *student comment* in the form of a questionnaire that has been distributed and given a response by the *basic technical skill* (BTS) batch 17 training participants, as follows:

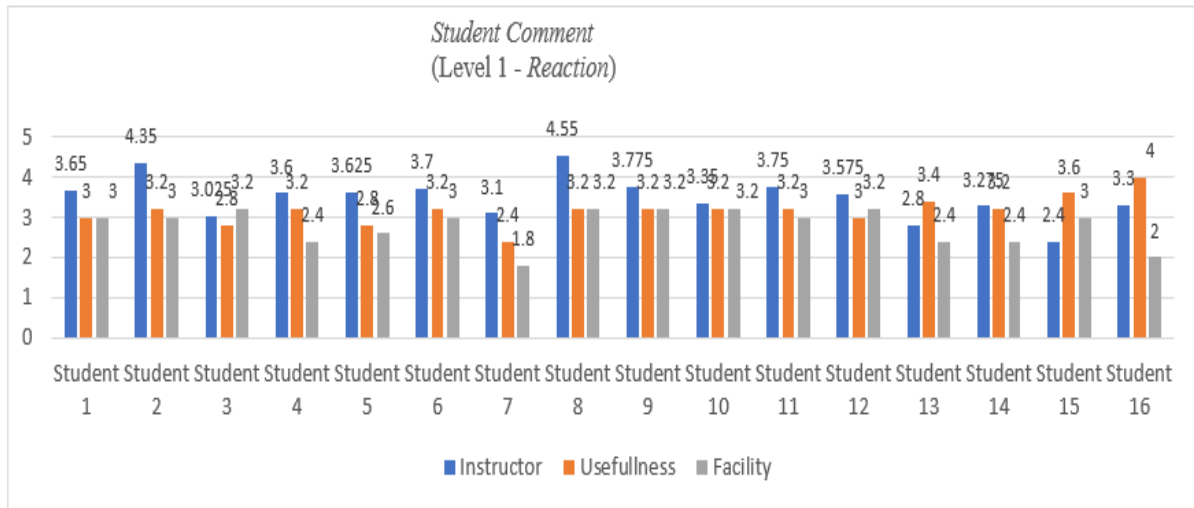


Fig 1. Diagram of Student Comment (Level 1-Reaction) of BTS Batch 17 Participants

Data on the participants' reaction to this implementation was obtained through the documents of the training organizing committee. After completing the training activities, each trainee is required to fill in a *student comment (reaction sheet)* in the form of a questionnaire that has been prepared by the training organizer, namely *Lion Group Training Center (LGTC)*. The indicators of the training organizer's assessment include the effectiveness of the training, the facilities provided by the organizer to the trainees, the usefulness or suitability of the training materials, and the delivery of training materials by the instructors during the training. And there are variations in the results of the assessment given by the 16 training participants.

There are 3 assessment components marked with different colors. However, it can also be seen that the assessment for the *instructor* is higher with an average of 3.48, then for the *usefulness* assessment has an average value of 3.16 and the average value for *facilities* is 2.78. From the three components of the satisfaction assessment, the satisfaction assessment of training facilities can be a concern for Lion Group Training Centre to improve the facilities that were

previously available. This needs to be done so that future participants feel more comfortable again to learn and carry out training at Lion Group Training Centre. Which is certainly an additional value to attract the attention of the community to register and carry out training at the Lion Group Training Centre.

B. Level 2 (Learning)

Measurement activities in the second stage of evaluation are relatively more difficult and more time-consuming when compared to *reaction sheets* in the form of questionnaires or questionnaires, which are easier and more effective. Therefore, the use of measuring instruments and the right sorting of time will be able to help get valid and accurate measurement results. The measuring instruments that we can use are written tests, questionnaires, interviews, observations, and performance assessment rubrics. However, in this study, researchers used ability tests in writing and Computer Assisted Test (CAT). The following is a diagram showing the *pre-test* and *post-test* results of *basic technical skill (BTS)* batch 17 trainees:

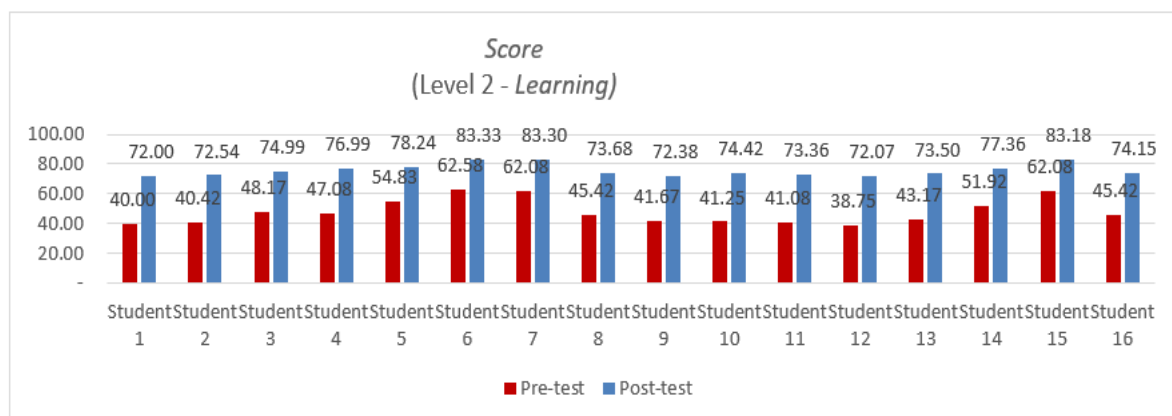


Fig 2. Diagram of Pre-test dan Post-test

There was a difference between the results of the *pre-test* and the results of the *post-test*. The pre-test results were below 70 with an average of 47.87 out of 16 participants. However, there was a surge in post-test scores seen in the diagram with an

average score of 75.97. So, it can be concluded that all trainees experienced changes from before training which still lacked knowledge about aircraft engineering until after the training was almost complete and all participants of the *basic technical*

skill (BTS) batch 17 training were declared fit to become an aircraft technician at Lion Air Group.

C. Level 3 (Behavior)

At level 3, data collection uses interview techniques to informants. Informants who have been determined by researchers are *group leaders* from each department where participants work. After obtaining interview data, the results were then processed using NVivo software. And the Pearson coefficient value obtained from the analysis results on NVivo has 2 variations of points, namely points 0.60-0.799 (strong) and points 0.80-1.00 (very strong). This means that the researcher can state that all informant answers will be used for the further analysis process because they have the same level of linearity and focus on the topic of this research, in other words, there are no answers from informants that are not used.

The recapitulation of informants' answers to researchers' questions is as follows:

a) Safety

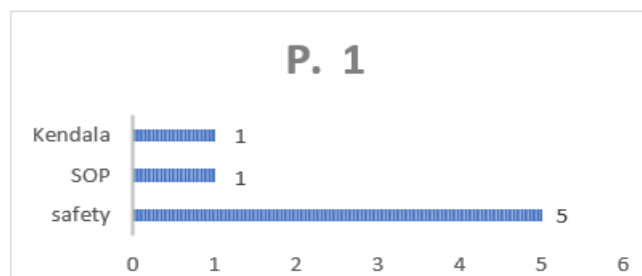


Fig 3. Results of Recapitulation on Informant Answer to Question P.1

The *safety* factor for work as an aircraft technician is the main factor in running and carrying out work as a technician. The informants who are *group leaders* of each participant are also required to ensure the level of *safety* that has been implemented by employees, so the informants really know how much *safety* is needed and prioritized in the work as an aircraft technician.

b) Procedure

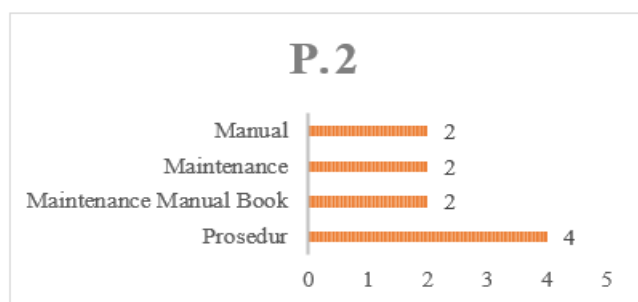


Fig 4. Results of Recapitulation on Informant Answer to Question P.2

Procedures become the main thing as a foundation and work reference. In the work as an aircraft technician, procedures have been contained in a book commonly called the *maintenance manual book*. The *maintenance manual book* is what must always be the basis or reference for work, which of course contains procedures that must be done, and which cannot be done in work. The work steps contained in it make it easier for workers to carry out their job duties in accordance with their department or field.

c) On Time

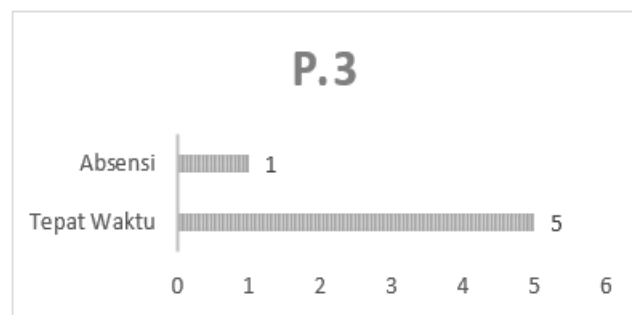


Fig 5. Results of Recapitulation on Informant Answer to Question P.3

The time factor goes back to the type of work being handled. Some jobs can be completed in one day, but many jobs take a long time. However, each *group leader* provides a benchmark time or commonly referred to as a target, so punctuality is also important for work as an aircraft technician at Lion Air Group. In this case, all informants also said the same thing (answers from 5 informants). The validity of the above answers, when viewed by member checking between informants and with expert opinion, is obtained in common opinion, which in essence is that even though they are in different departments, the punctuality factor is important at work.

d) Complain

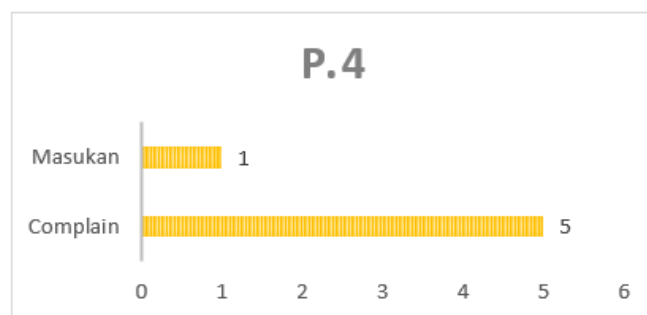


Fig 6. Results of Recapitulation on Informant Answer to Question P.4

The *complaint* factor is important in carrying out work, because if there is a *complaint*, it will hinder the completion of a job that has been given by a superior or *group leader*. And of course, it will reduce the performance assessment which will affect the career path in this aircraft technician job. The role of

an aircraft technician is certainly important for the continuity of operations in aviation. If there is a *problem with a* part of the aircraft, it will certainly hamper the operation which will also have an impact on the company's performance in the eyes of the public.

e) *Improved*

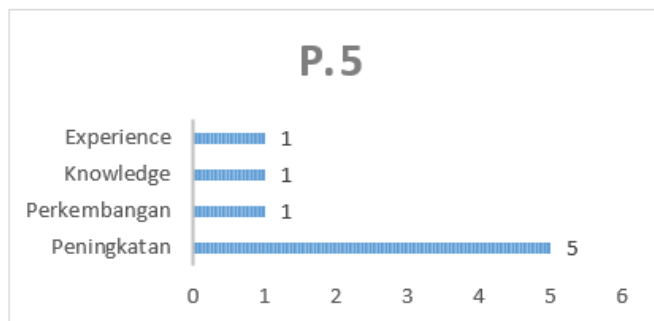


Fig 7. Results of Recapitulation on Informant Answer to Question P.5

Regarding the improvement in completing their work tasks during the 8 months after the training, the answer was that the improvement occurred for each respondent, and it could be seen and felt by the informants as *group leaders* in each department. This is in accordance with what the informants said (5 answers from 5 informants). The increase in question is an increase in the form of *knowledge* or knowledge and *experience* or experience gained from Lion Group Training Centre during the training period.

f) *Creativity*

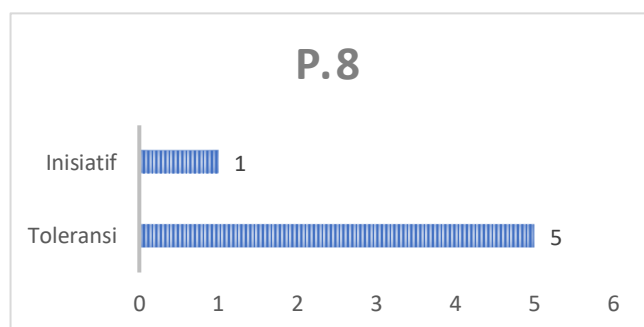


Fig 8. Results of Recapitulation on Informant Answer to Question P.6

The information conveyed by the informant that not all departments require creativity from workers, because the type of work must be in accordance or even the same as the *maintenance manual book* according to the field of work. The provisions are in accordance with the *group leader's* orders, which are the approval of whether creativity can be used to complete the work.

g) *Initiative*

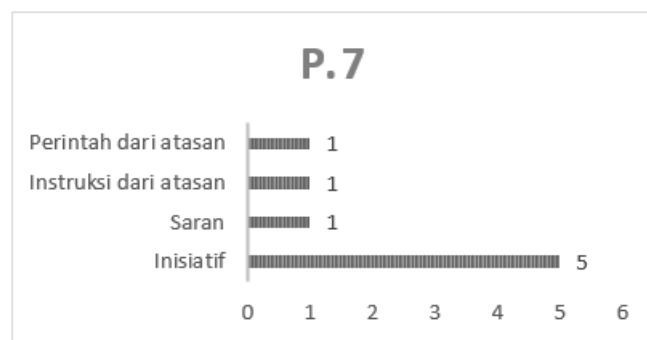


Fig 9. Results of Recapitulation on Informant Answer to Question P.7

All informants said the same thing so that the researcher got the keyword initiative in the questions that had been given to informants. Initiative is almost the same as creativity for informants as *group leaders*, which cannot be applied without the approval of the superior or *group leader*. Because it goes back to the type of work given to be completed. And still guided by the *maintenance manual book* that has been given to each worker according to their field or type of work.

h) *Tolerance*

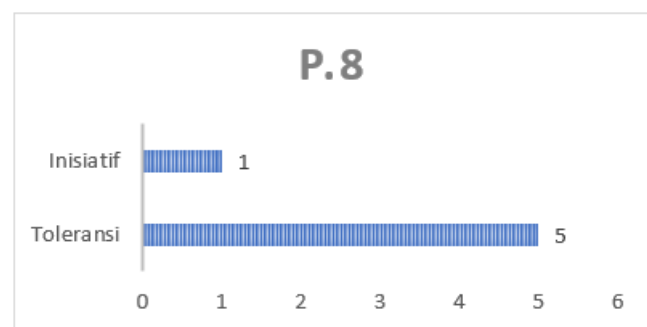


Fig 10. Results of Recapitulation on Informant Answer to Question P.8

Each respondent has an attitude of tolerance towards their colleagues and superiors, especially tolerance towards colleagues. There are times when co-workers have personal needs that require tolerance from other colleagues such as celebrations (worship), family needs, etc. This shows that tolerance is needed in all fields or departments in Batam Aero Teknik. This shows that tolerance is needed in all fields or departments in Batam Aero Teknik.

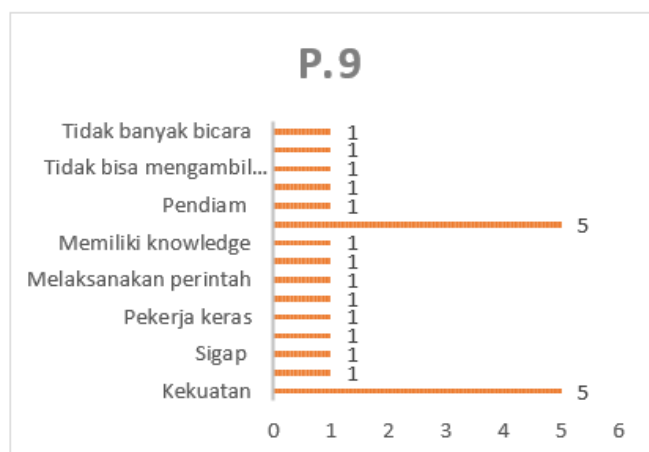
i) *Strengths and Weaknesses*

Fig 11. Results of Recapitulation on Informant Answer to Question P.9

To become an aircraft technician of course requires *hard skills in the form of knowledge, experience*, etc. This is of course obtained from training organized by the Lion Group Training Centre which can be a provision and strength to become an aircraft technician. Apart from humans who are imperfect social creatures, there are weaknesses that most respondents have, such as being quiet, unable to make decisions, looking more relaxed, etc. which can be categorized into *soft skills*. The validity of the answers above, when viewed by *member checking* between informants and with expert opinion, is similar, namely in essence, the strengths of the respondents will be a *value* for the company to achieve its vision and mission. And the weaknesses that respondents have are not detrimental to the company because these weaknesses are in the form of *soft skills* that can be improved and honed to become better and bring a good image of the company in the eyes of the community.

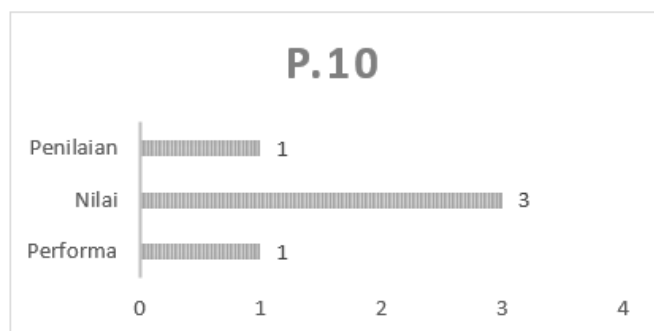
j) *Grades Award*

Fig 12. Results of Recapitulation on Informant Answer to Question P.10

In each department or field of work, there are several components of the assessment given to workers. Starting from the aspect of work (*skills and knowledge*) to the attitude (tolerance, alertness, etc.) which is used by *group leaders* (informants) as a consideration in an assessment. And in general, the assessment is given every 1 (one) year, which in the future can also be used as a consideration for employees who will be promoted (*grade*) or *salary* increases (*salary*). When viewed by *member checking* between informants and with expert opinions, similarities are obtained, namely in essence, the value can be used as a reference for work results in a certain period which is used as a basis for improvement and improvement of employee performance. The steps taken before, after, or simultaneously with the appraisal process, namely *coaching*. *Coaching* is used for a supervisor (*Group leader*) as material for improving and increasing employees so that performance is further improved or maintained if it is very qualified in carrying out work.

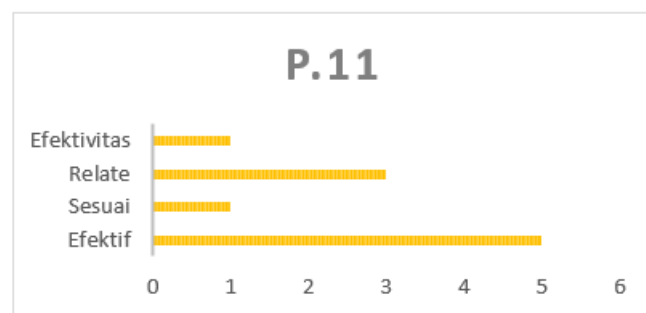
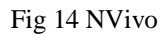
k) *Training Effectiveness*

Fig 13. Results of Recapitulation on Informant Answer to Question P.11

The effectiveness of a training shows the success of the training programme itself. The *knowledge* provided by the mentors affects how an effective training can be said. In every field or department requires basic techniques, basic knowledge that is a provision for someone to become a technician. That is one of the foundations why *basic technical skill* training is held. Each respondent comes from a different field / school major so that the knowledge they have is not the same between one another. So basic training is held to equalize the knowledge that must be possessed to become an aircraft technician. The effectiveness of training can be seen from the results owned by respondents, changes, and improvements in respondents from before attending training to 8 months after training is carried out. The researcher conducted data reduction by looking at the most frequently discussed topics from all data that had been imported into NVivo, as followed:



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