

The Impact of Pengembangan Keprofesian Berkelanjutan (PKB) Training for SMK Productive Teacher on The Learning Outcomes Students of SMK in Productive Subjects in North Sumatera

Rivai Simanjuntak¹, Sri Milfayetty², Darwin³, Wanapri Pangaribuan⁴, Joharis Lubis⁵
{rivaijuntak70@gmail.com}

Management of Education Doctoral Study Program, Universitas Negeri Medan, Indonesia¹²³⁴⁵

Abstract. Learning is the process of behavior change caused by experience and training. This means that the purpose of learning activities is a change in behavior, including knowledge, skills, attitudes, and even covering all aspects of the personal. Training is a variety of introduction efforts to develop the performance of the workforce in the work that is carrying or also something related to its work which means making changes in behavior, attitudes, expertise, and knowledge that are specific or specific. Hypothesis that states there is an influence between the implementation of PKB training for Productive teachers (X) on the learning outcomes students of SMK Teknologi Rekayasa in North Sumatera (Y) is acceptable. Where the results of EDD found that there was an influence on the implementation of PKB training on the learning outcomes students of SMK Teknologi Rekayasa in North Sumatera by 47.7% and the rest by 52.3%. It means that in addition to the implementation of PKB training for productive teachers there are still another influence of 52.3% to affect the learning outcomes students of SMK Teknologi Rekayasa in North Sumatera.

Keywords: Learning Outcomes, PKB Training

1 Introduction

School as an institution or educational institution that is a means of carrying out educational objectives by carrying out the learning process. School is not only used as a gathering place between teachers and learners, but a very complex and dynamic system. In line with that Fattah (2003: 1) said the school is a container where the education process is carried out, has a complex and dynamic system. The school is seen as an organization that requires management by professional people, where the core activities of the school organization manage human resources that are expected to produce qualified graduates, in accordance with the needs of the community. School leavers are expected to make a significant contribution to the nation's development.

Teacher is a part of schools where teacher is one of the factors that have an important role in achieving the success of the teaching and learning process. This means that they are very instrumental in helping the development of learners to realize their life goals optimally. This is in accordance with the results of research conducted by John Hattie (University of Auckland

2017), in his research found that the determining factor of student achievement is dependent on the student itself 49%, teachers 30%, schools 7%, home 7% and friends 7%.

The ability of teachers in mastering their competencies, will determine the success of learning goals through the continuity of the teaching and learning process means that teachers are also required to be able to apply varied teaching methods, so that students feel comfortable in the classroom and comfortable to learn, and change the monotonous learning into a dynamic, active, innovative, creative, effective, and fun.

Law Number 14 of 2005 concerning teachers and lecturers, Chapter II, article 2 states that teachers have a position as professionals at the level of primary education, secondary education, and early childhood education on the path of formal education raised in accordance with the laws and regulations. Furthermore, in article 20 described in carrying out their professional duties teachers are obliged (a) to plan learning, carry out quality learning processes, and assess and evaluate quality learning, and assess, and evaluate learning outcomes, (b) improve and develop academic qualifications and competencies in an ongoing manner in line with the development of technological science and art, (c) act objectively and not discriminatively on based consideration of gender, religion, ethnicity, race and certain physical conditions, or family background, and socio-economic status of learners in learning, (d) upholding the laws and codes of ethics of teachers and religious and ethical values, and (e) maintaining and fostering the unity of the nation.

To realize and follow up on the mandate of what is expected in the law, the ministry of education and culture implements competency improvement programs for all teachers, including those who are certified, or who have not been certified through program of Pengembangan Keprofesional Berkelanjutan (PKB). PKB program through Teacher Education and Training which is called Teacher Training Program is an effort of the Ministry of Education and Culture through the Directorate General of Teachers and Personnel (Ditjen GTK) in an effort to improve teacher competence. In line with this, teacher competency mapping has been carried out through the Uji Kompetensi Guru (UKG) simultaneously throughout Indonesia so that it can be known the objective condition of teachers today and the need for increasing their competence.

Pusat Pengembangan dan Pemberdayaan Pendidik dan Tenaga Kependidikan Bidang Bangunan Lestari (PPPPTK-BBL) Medan is an extension of the Ministry of Education and Culture under the Directorate General of Teachers, and Education Personnel feels responsible in improving the quality of student competence, therefore PPPPTK BBL Medan continues to improve the quality of competence of vocational graduates in their built areas through PKB activity programs. To find out the extent of the success of this PKB program, it is necessary to evaluate and reflect on the implementation of PKB activities through an EDD entitled "The Impact of Pengembangan Keprofesional Berkelanjutan (PKB) Training For SMK Productive Teacher on The Learning Outcomes of SMK's Students In Productive Subjects in North Sumatera".

Learning is an inseparable activity in human life. Consciously or not, this process has actually been done by humans since born to sufficient living needs while developing the potentials that exist in their life. This means that in order to acquire various changes in skills and attitudes, someone must first experience the learning process. According to Sabri (2010: 19) said learning is a process of behavior change due to experience and training. This means that the purpose of learning activities is a change in behavior, include concerning knowledge, skills, attitudes, and even covering all aspects of the personal. Everyone who experiences the learning process will succeed and fail.

Learning outcomes as one of the indicators of achievement of learning goals in the classroom can not be separated from the factors that affect the learning outcome itself. Sugihartono (2007: 76-77), mentions the factors that affect learning outcomes are: a) internal factors is a factors that exist in individuals who are learning. Internal factors include physical factors and psychological factors, b) external factors is a factors that exist outside the individual. External factors include: family factors, school factors, and community factors. All activities carried out will give good or bad results. Students are a target in learning, after students get learning in school need to know the learning outcomes. To find out the learning outcomes and potential that students have after the lesson is done through measurement or assessment. Student learning outcomes are changes that occur in cognitive, affective and psychomotor aspects.

According to Bloom in Sudjana (2009: 22) broadly divides learning outcomes into three areas, which are: (1) cognitive; (2) affective; and (3) psychomotor. The cognitive realm is related to the ability to think which consists of six levels, which are: a) knowledge, b) understanding, c) application, d) analysis, e) synthesis, and f) evaluation. The affective realm concerns the aspect of attitude, where the main one in one's capacity consists of five levels, which are: a) acceptance, b) responding, c) appreciation, d) organizing, and e) self-sufficiency. The psychomotor realm in which behavioral change in this realm relates to skills is: a) imitation, b) manipulation, c) articulation, and d) deepening.

Training is the process by which people achieve certain abilities to help achieve organizational goals. This means that trainees are expected to improve the performance of workers in a particular job that is being responsible, or a job that has to do with their work. According to Noe, Hollenbeck, Gerhart & Wright (2003:251) Training is a planned effort to facilitate the learning of job-related knowledge, skills, and behavior by employee. This means that training is a planned effort to facilitate learning about work related to knowledge, expertise and behavior by employees.

Robbins, Stephen P, (2001:282) Training meant formal training that's planned in advanced and has a structured format. This indicates that the intended training is a formal training that is carefully planned and has a structured training format. Furthermore Mangkunegara (2005) explained that the stages in training and development include: (1) identifying training needs / need assessment; (2) set training objectives; (3) establish the criteria for success with its measuring instrument; (4) establish training methods; (5) conduct experiments (try outs) and revisions; and (6) implement and evaluate.

The follow-up to the implementation of UKG is realized in the form of post-UKG teacher training which in 2016 was named Program Guru Pembelajar, in 2017 named the Pengembangan Keprofesian Berkelanjutan (PKB) Program, and in 2018 it was named the Diklat Guru Program. The Diklat Guru Program will use face-to-face mode. This program is created to be able to improve the competence of teachers as agents of change and the main source of learning for learners. In 2018, there is expected to be an increase in the achievement of UKG value with a national average of 75.

Design a training program that is applied to vocational teachers (productive teachers) or teachers of competence of expertise. The design of this training program is built from the needs of SMK graduates who must link and match with the needs of the competence of the business world and the industrial world. Therefore, the draft of the training program for teachers of competence expertise for aspects of professional competence refers to Skema Kerangka Kualifikasi Nasional Indonesia (SKKNI). The Teacher Training Program for vocational teachers in SMK is carried out using modules in accordance with the competency units contained in certain clusters in Skema Kerangka Kualifikasi Nasional Indonesia (KKNI) Level IV. The results of self-evaluation of each unit of competence contained in each cluster become

determinants to determine the cluster that needs to be improved professional competence. The training program for vocational teachers ends with an assessment. The assessment results for teachers are a reflection of the Uji Kompetensi Guru (UKG) in the year concerned. The implementation of this activity is carried out in two stages, namely: Full Face-to-Face and Face-to-Face and Self-Study.

2 Research Method

This research is conducted using quantitative methods, namely as a method based on the philosophy of positivism, used in certain populations or samples, sampling techniques are generally done randomly, data collection using EDD instruments, quantitative / statistical data analysis with the aim to test established hypotheses. The data analysis technique used is an inferential statistical technique. In the writing of quantitative reports to analyze data used descriptive statistics or inferential statistics. The target population in this EDD is all students of SMK Negeri Bidang Keahlian Teknologi Rekayasa third class in North Sumatra who are taught by teachers after participating in PKB training conducted by PPPPTK BBL Medan by obtaining good predicate scores. The number of teachers who have participated in PKB training that has a good predicate score of 22 people spread across 22 of SMK Negeri in north Sumatra and consists of 8 skill competencies, further from this data obtained the number of students as a population is as many as 1,009 people consisting of.

Arikunto (2003:120), argues that for sampling if the number of subjects is large more than 100 can be taken between 10 - 15%, or 20 - 25% or more and if the subject is less than 100, it is better to take all so that the study is a population study. Based on the above opinion, we took a sample of 10% of the population, thus the number of populations in this EDD is as much as 1009 x 10% rounded 100 people. Instruments used for data collection are first tested for validity and reliability. Tests of instruments are conducted to obtain valid and reliable data collection tools. In this method to disseminate the data of each variable, descriptive statistics are used. The use of descriptive statistics aims to find the highest, lowest, mean, median, mode, and standard deviation scores, then organized in a list of frequency distributions as well as in chart form.

One of the assumptions of regression analysis is linearity. This means whether the regression line between X and Y forms a linear line or not. If it is not linear, then regression analysis cannot be continued. The benefit of regression analysis results is to make a decision on whether the rise and fall of bound variables can be done through the increase of free variables or not. In this testing to test the hypothesis of the implementation of PKB training for productive teachers for Vocational Engineering Technology (X) with Productive Material Student Competency Learning Outcomes (Y) used correlation analysis using the product moment correlation formula, that is :

$$r_{xy} = \frac{N \cdot \sum XY - (\sum X) \cdot (\sum Y)}{\sqrt{(N \cdot \sum X^2 - (\sum X)^2) (N \cdot \sum Y^2 - (\sum Y)^2)}}$$

3 Result and Discussion

Data on the stuffing of PKB training questionnaires highest score, lowest score, average, standard deviation, mode, and median for variable X, as follows:

PKB Training (X)

Based on the results of calculations, PKB training score data (X) obtained that the highest score is 148 and the lowest score is 81. Average value (M) = 123.78; standard deviation (SD) = 14.6; Modus (Mo) = 125.98 and Median (Me) = 125.26. Furthermore, from the calculation of the frequency distribution obtained the ideal mean 96 and the ideal standard deviation of 21.3. More details can be presented in table 4.2 and the histogram in figure 4.1 below:

Table 1. Variable Distribution of PKB Training (X)

Class	Interval Class	Frequency of Observation (f_0)	X_i	$(f_0 \cdot X_i)$	X_i^2	$F_0 \cdot X_i^2$	Class Edge
1	81 – 88	3	84,5	253,5	7.140,3	21.420,8	80,5
2	89 – 106	8	97,5	780,0	9.506,3	76.050,0	88,5
3	107 – 114	10	110,5	1.105,0	12.210,3	122.102,5	106,5
4	115 – 122	19	118,5	2.251,5	14.042,3	266.802,8	114,5
5	123 – 130	29	126,5	3.668,5	16.002,3	464.065,3	122,5
6	131 – 138	16	134,5	2.152,0	18.090,3	289.444,0	130,5
7	139 – 146	10	142,5	1.425,0	20.306,3	203.062,5	138,5
8	147 – 154	5	148,5	742,5	22.052,3	110.261,3	146,5
		100,0		12.378,0	119.350,0	1.553.209,0	

The table data above explains that the number of respondents who are in the average class of variable data X (123.78) is 29 people or 29%. The number of respondents who were above average was 31 people or 31% while the below average score was 40 people or 40%. To give a clear picture of the distribution of the above score can be shown in the form of the following 4.1 figure histogram:

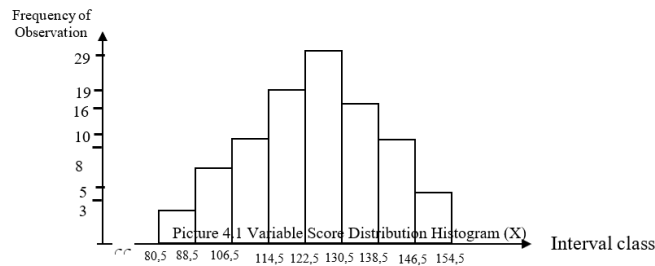


Fig 1. Variable Score Distribution Histogram (X)

Student Learning Outcome Data (Y)

From Table 4.1 above, obtained data on student learning outcomes (Y) the highest score is 97 and the lowest score is 72. Average value (M) = 84.7; standard deviation (SD) = 5.11; Mode (Mo) = 82.0 and Median (Me) = 84.45. More details can be presented in table 4.3 and histogram in figure 4.3 below:

Table 2. Variable Frequency Distribution (Y)

Class	Interval Class	Frequency of Observation (f_0)	X_i	$(f_0 \cdot X_i)$	X_i^2	$F_0 \cdot X_i^2$	Class Edge
1	72 – 74	2	73,0	146,0	5.329,0	10.658,0	71,5
2	75 – 77	3	76,0	228,0	5.776,0	17.328,0	74,5
3	78 – 80	18	79,0	1.422,0	6.241,0	112.338,0	77,5

4	81 – 83	21	82,0	1.722,0	6.724,0	141.204,0	80,5
5	84 – 86	19	85,0	1.615,0	7.225,0	137.275,0	83,5
6	87 – 89	18	88,0	1.584,0	7.744,0	139.392,0	86,5
7	90 – 92	13	91,0	1.183,0	8.281,0	107.653,0	89,5
8	93 – 95	6	95,0	570,0	9.025,0	54.150,0	92,5
		100		8.470,0	56.345,0	719.998,0	

The table data above shows that the number of respondents who are in the average class of variable data Y (84.7) is 21 people or 21%. The number of respondents who were above average was 37 people or 37% while the below average score was 44 people or 44%. To give a clear picture of the distribution of the above score can be shown in the form of the following figure histogram 4.2:

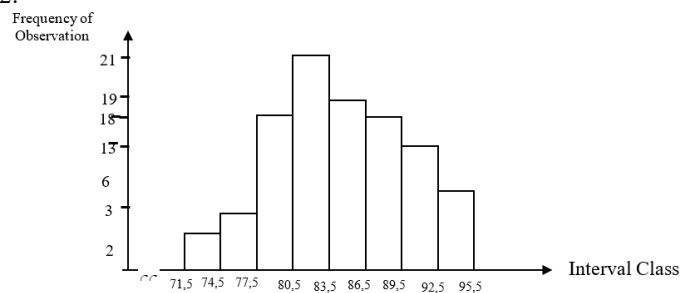


Fig 2. Variable Score Distribution Histogram (Y)

In testing statistical analysis to test hypotheses, linearity and meaningfulness tests are performed, normality tests, independence tests, and homogeneity tests.

Linearity and Meaningfulness Test

This linearity test is done to determine the linear or not relationship of free variables with bound variables as a condition to use statistical techniques and regression analysis. The following is presented with a summary of Analisis Varians (ANAVA) that tests the range and meaning of :

Learning Outcome Variable (Y) Over PKB Training (X):

Regression equation of variable Y over X, such as: The linearity relationship of these two variables can be described as figure 4.3 below:

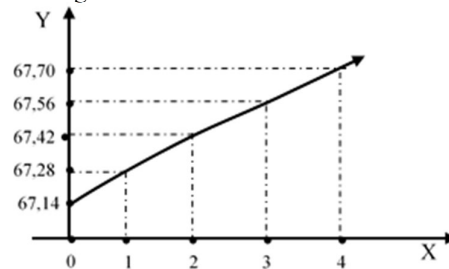


Fig 3. Linearity Equation of Learning Outcome Variables (Y) Over PKB Training (X).

From the results of the calculation obtained the regression equation variable Y over X, that is :

$$\hat{Y} = 67,14 + 0,14X$$

ANOVA summary for regression equation Y over X such as Table 4.4 follows:

Table 3. ANOVA Summary for Regression Equation Y over X

Source Variance	dk	JK	RJK	F _h	F _t (α=0,05)
Total	100	723.400,00			
Regresi (a)	1	720.801,00	720.801,00		
Regresi (b/a)	1	563,08	563,08	27,11	4,01
Residu (s)	98	2.035,92	20,77		
Galat (G)	57	1.059,76	18,59		
Tuna Cocok (TC)	42	976,16	23,24	1,25	1,96

From table 4.4 above it can be seen that Ft (dk; 1:98) at the sinif level the state of 0.05 is 4.01 while Fh 27.11 turns out to be Fh > Ft, which is 27.11 > 4.01. From this it can be said that the regression equation is meaningful. From the table above it can also be seen that Ft (dk; 57:42) is 1.96 while the Fh obtained is 1.25 it turns out that Fh.

Hypothesis that states: there is an influence between the implementation of PKB training for Productive teachers (X) on the learning outcomes students of SMK Teknologi rekayasa in North Sumatra (Y) is acceptable. Where the results of EDD found that there was an influence on the implementation of PKB training on the learning outcomes students of SMK Teknologi rekayasa in North Sumatra by 47.7% and the rest by 52.3%. This means that in addition to the implementation of PKB training for productive teachers there is still another influence of 52.3% to affect the learning outcomes students of SMK bidang Teknologi Rekayasa in North Sumatra.

Evaluasi Dampak Diklat (EDD) found the implementation of PKB training for SMK teachers can affect the learning outcomes students of SMK Teknologi Rekayasa. This is in accordance with the general purpose of implementing PKB for SMK teachers. It is clearly stated that the Program Diklat Guru in general aims to improve the ability of teachers in carrying out their duties through improving competence both pedagogically and professionally, as well as having performance as educators and leaders for their students. This means that the implementation of PKB training for productive teachers not only stops at improving the ability of the teacher, but also must be able to be channeled to its learners so that students can feel how important the improvement of teacher achievement through attending PKB training. In other words, the measurement of PKB's success is not only on the out-put level but up to out-come.

In addition, from several special objectives of pkb training for SMK teachers, among others, are (a) showing the ability as professionals in carrying out their duties as teachers, (b) having performance as educators and leaders for their learners, and (c) being an example of toughness, optimism, and cheerfulness for students. In addition, SMK teachers who participate in PKB training are required to be able to disseminate the skills obtained to fellow peers in their respective schools, especially must be able to continue the knowledge and knowledge obtained when participating in training to their students. Thus, the knowledge and knowledge possessed by its learners will increase.

As the manager of student activities, teachers are expected to be the teachers and helpers of students, not only when they are in the classroom but also when they are outside the classroom, for example in the laboratory or in SMK known as workshops (bengkel). In terms of guiding, teachers need to actualize or realize their ability in guiding activities in learning activities and guiding learning experiences. Guiding students' learning activities, especially when teaching not only means preaching in front of the class, but also provides the widest opportunity for the student to do his learning activities.

In guiding the experience of the students, teachers are required to connect them with their environment. This is important because in the experience of interacting with the environment that actually the students experience the learning process. In addition to guiding, teaching must also mean helping students to develop and be able to adjust to their environment. As a result, teaching activities are not only so that students master the knowledge / subject matter, then towards to the higher step or get high grades, but also so that he uses his knowledge and skills in everyday life.

Likewise, PKB training activities, where when this activity has ended, then the participants of the training must be able to implement it to their respective learners. In addition, that the implementation of activities must also be held properly as well. From the data obtained that the level of tendency to implement PKB training for SMK teachers still falls into the category of sufficient, therefore it needs to be developed and improved the implementation of PKB activities to be able to obtain a good level of tendency.

For example, in the services of participants, either through the organizer or by facilitators in their respective departments. In addition, the materials delivered by facilitators to be more useful with technological advances, according to the needs of teachers with industry demands in accordance with SKKNI. In addition, it is also no less important methods or models displayed by the facilitator able to attract the attention of the participants of the training.

This EDD has been tried as much as possible to get optimal results in accordance with the objectives of EDD, although the author is aware of the limitations and various shortcomings of EDD. EDD data is obtained through the filling of questionnaires provided to selected respondents and the collection of Ujian Kompetensi Kejuruan (UKK) results from students. Angket is used to capture data on the implementation of PKB training for productive teachers compiled by the research team, therefore this study is inseparable from the shortcomings and limitations. These limitations are as follows:

- a. To collect data on PKB training variables for productive teachers, it is used to be given to students as respondents. Measurement in this way has limitations such as a person's ability to read and understand the statements of each item, one's personal views and understandings and willingness to express personal circumstances in a way.
- b. The EDD instrument made by the author is only carried out once, although based on valid and reliable statistical calculations, therefore the weakness of the instrument used still remains. Instruments are made in the form of questionnaires so that the results obtained are very dependent on the honesty of respondents. In this case, the author has anticipated the weakness by not including the identity of the respondent on the instrument, appealed to answer the questionnaire honestly and informed the respondent that the results of the questionnaire had no effect on learning outcomes or achievement in school.
- c. UKK data collection is very limited, where the author does not directly supervise the sample when carrying out the exam but is supervised by the teacher of the field of study concerned in their respective schools. Furthermore, the value or results obtained are the results of the design given by each school.

4 Conclusion

Based on the EDD results outlined, the conclusions are as follows:

- a. There is a positive and significant influence between PKB training for productive teachers of SMK Teknologi Rekayasa on The Learning Outcomes Students of SMK Teknologi Rekayasa in North Sumatra.
- b. The influence of PKB training for productive teachers of SMK Teknologi Rekayasa on the Learning Outcomes Students of SMK Teknologi Rekayasa in North Sumatra Province is 47.7%, and the remaining 52.3% outside of PKB training for Productive Teachers of SMK, this indicates that the more often attend PKB training for productive teachers of SMK, the higher the learning outcomes students of SMK Teknologi Rekayasa in North Sumatra Province.
- c. The level of tendency from the training of PKB productive teachers in SMK Teknologi Rekayasa in North Sumatra is still in the category of sufficient.
- d. There are still some teachers who have participated in PKB training has not implemented the knowledge and knowledge they gained during pkb training to their respective students.

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