



## Implementation of Dual System Education (DSE) Program in Accounting Expertise Program at SMK PGRI 1 Ponorogo

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### Abstract

The research was carried out at SMK PGRI 1 Ponorogo, Ponorogo Regency, East Java Province. This research aimed to determine the effectiveness of the implementation of the dual system education (DSE) program in the accounting Expertise program at SMK PGRI 1 Ponorogo. There were 9 validators in this research. The results showed that the implementation of the dual education system program in the accounting expertise program at SMK PGRI 1 Ponorogo has not been running effectively as evidenced by the average score of the overall input/planning, process/implementation, and product/assessment of 3.75, while for the effective standard, the scale is 4. The Input/planning stage includes the selection of competencies (4), determination of industry (4.78), preparation of programs (4.78), debriefing of participants (4.78), determination of mentors (4.67). The overall average score is  $4.60 \geq 4$ , so it is said to be effective. The process/implementation stage consists of the preparation of the DSE journal (3.78), DSE monitoring (4), and portfolio documentation (2.78). The overall average score is  $3.52 \leq 4$ , so it is said to be ineffective. The product/assessment stage includes the supervisor assessment (4.11), industry certification (4.78), and score reporting (3.55) with the overall score of 4.14, which is said to be effective.

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## INTRODUCTION

Education is the main means in building and developing productive human resources and professional ability to face challenges in the future. Vocational High School (SMK) is one type of formal education that aims to produce productive and professional graduates so that they are ready to enter the work field. Vocational education is confined to preparing young people and adults for working life, a process often regarded as of a rather technical and practical nature Clarke dan Winch (2007:9). These include: general knowledge versus specific knowledge; theoretical knowledge versus practical knowledge; conceptual understanding versus proficiency in skills; creative abilities versus reproductive abilities; ratio intellectual skill versus physical skills; preparation for life versus preparation for work. However, in reality, vocational graduates, who are prepared to be skilled workers, actually contribute to the high open unemployment rate compared to the graduates of other levels of education. As the data obtained from the Central Bureau of Statistics (BPS), there was an increase in the number of unemployment for two years in August 2016 by 11.11%. Then, in February 2017, there was a decrease to 9.27% and in August 2017, the number of open unemployment of vocational graduates experienced an increase to 11.41%. From the above, we can see that there are problems that occur in SMK, where graduates who have the potential to work in certain areas of expertise, but not absorbed in the world of work.

Seeing the above conditions, it is necessary to revitalize in order to improve and increase the quality of vocational graduates by perfecting and harmonizing the vocational curriculum with competencies according to the needs of graduate users (link and match). In addition, cooperation with the business world needs to be improved to provide wider access for vocational students to perform DSE and internship programs for vocational educators and education staff. Marsiam Bukit (2014) states that, in the DSE model, there are two parties who jointly organize a vocational education program. Both parties are the educational institution, in this case the vocational

high school, and employment or industry (company), both government and private companies. Both parties are involved and responsible starting from the planning stage of the program, the implementation, determining the student's graduation, and the marketing efforts of the graduates. This research was conducted to find out the link and match between schools and industry, the effectiveness of the stages and components that exist in the implementation of the PSG program whether it is by the guidelines issued by the DIKTI in 2017.

Therefore, this research discusses the implementation of a dual system education program. Based on the results of preliminary observations at SMK PGRI 1 Ponorogo, it was found that the obstacles experienced in the implementation of DSE, especially in the accounting department, are: (1) the equipment in the school is not in accordance with WBI (World of Business and Industry); (2) the cost for implementing DSE comes from a single fund namely tuition; (3) many of the students work not in accordance with their fields or expertise and no one is directly recruited by the industry determined by the school for students. This is indicated by the data on graduates working in their fields starting from 2014 of 10%; 2015 of 3,82%; 2016 of 4,62%; 2017 of 6.33%. Two places of learning of equal value and the same standard are combined together to form a system (Wolf in Marsiam Bukit, 2014: 43). The DSE program is an education conducted in two different places, at school (school-based learning) and at work (work-based learning). School-based learning is carried out by teachers or educators while work-based learning was carried out by mentors in the industry. Fathoni and Pramono (2014: 40) reveal that the definitions of the DSE implementation are varied, as follows: (1) DSE includes the program covering the entire school program, starting from new student enrolment (PSB) to producing graduates; (2) DSE consists of a combination between education subsystems in schools and in the work field/industry; (3) DSE is an educational program specifically engaged in the implementation of professional expertise education; (4) DSE is the implementation of

educational programs in schools and in the work field/industry integrated systematically and synchronously; (5) DSE is the process of organizing education in the work filed/industry emphasizing more in the working-while-learning activities in real conditions.

Dual system education is a combination of learning and internship, aimed at guiding students to master certain work skills in order to become vocational graduates who have the ability relevant to the needs of the community (Surachim, 2016: 53). According to Muliati (2007), basically Dual System of Education of Vocational High School is education and training system for vocational competence that is conducted in vocational schools and business work to produce middle level workers with special skills. Basically, the DSE in vocational high schools is a system of education and training to obtain certain skills by learning at schools and working in companies to produce middle-level workers who have certain skills. This is in line with the statement of Djojonegoro (1999, p.46) which explains that "dual system education is a form of organizing education as well as systematic and synchronized vocational skills training between educational programs held in schools with skills mastery programs obtained by working directly in the world of work, directed to achieve a certain level of professional expertise ". DSE held at vocational high schools is one form of implementation of the "link and match" policy between the world of education and the world of work. According to Wardiman in Marsiam Bukit (2014: 31), link is defined as a situation where education has functional links to market needs, in terms of both concepts, policies, planning, and implementation of the program. Match is a situation where the program developed, fostered, and implemented in a national system can produce educational outputs that are able to meet the demands of graduate users, both in terms of the type, quantity, and quality required. demands of the management of vocational education must be by the link and match policy, which is a change from the old pattern that tends to form education for education to a brighter, clearer and more concrete form of vocational education as a program of development and improvement of

human resources. There are several changes to the paradigm and dimensions of renewal that are derived from the link and match policy, among others, namely (Sidi; 2001): Changes from the Supply Driven to Demand Driven approach, Changes from School Based Programs to Dual-based systems (Dual Based Program), Change from teaching model that teaches subjects to competency-based teaching models, Changes from Narrow Based programs to basic, strong and broad (Broad Based) programs, Changes from rigid formal education systems , to a system that is flexible and adheres to the principle of multy entry, multy exit, Change from a system that does not recognize the expertise previously obtained, to a system that recognizes the expertise gained from where and in any way the competency is obtained (Recognition of prior learning), Change from the separation between education and vocational training, to a new system that integrates education n and vocational training in an integrated manner, Changes from a terminal system to a sustainable system, Changes from management centered to a pattern of self-management (the principle of decentralization), Change from full dependence on central government funding to self-financing with central government subsidies.

The DSE implementation emphasizes the education of professional expertise that integrates systematically and synchronously between educational programs in schools with expertise programs obtained directly at the company (Nurharjadmo:2008). This is to realize the link and match of schools and cooperative institutions from planning to the output process in the implementation of DSE program. Stefan Wiesner (2013), The renowned dual education system exists in Germany since 1870 with great success for the employee and the employer. Its essence relies in the training of the apprentice in theory and praxis at the same time in a specific profession the apprentice wants to execute in the future. The apprentice learns general Know How (like math, foreign languages, book keeping, administrative work, computer skills, natural sciences etc.) and in the case of the technician specific technical as well as soft skills (like Project Management, Crisis Management, Team Work, social and personal

aptitudes, etc.) for approx. 1-2 days of the week at the Vocational School. In accordance with the above statement, the theoretical and practical trainings in schools before the internship in the industry will prepare students and help achieve link and match between the school and the work field. The achievement of the results of the PSG implementation is as follows: 1. The waiting period of graduation until obtaining relevant work with education is relatively short 2. The participation rate of graduates in the industry is high or the percentage of graduates absorbed in institutions and companies is high. 3. The graduates work according to the program or field of expertise that is educated.

The effectiveness of a dual system education program is the effort to produce graduates who have the ability while mastering the knowledge, attitudes, and work skills in accordance with the field of interest that they are interested in, a learning aimed at changing/development of workforce needs. The implementation of a vocational dual system education program must meet the requirements by having: (1) Buildings, namely facilities and infrastructure needed for the ongoing teaching and learning activities; (2) Principals, teachers and other education personnel as providers of teaching and learning activities; (3) Workshop facilities for training or simulation; and (4) School assemblies (MS) and partner institutions (IP). The implementation of a dual system education program also requires IP (partner institutions) that must meet the requirements by having a place and work equipment and instructors or mentors or staff who carry out the task as instructors or mentors.

Constraints or obstacles that occur in the planning, implementation, evaluation of the school are: 1) acceptance of new students, the DU / DI has not been involved; 2) DSE curriculum compilation, DU / DI parties have not been involved; 3) limited equipment in schools, and 4) there are still students who implement DSE at DU / DI that are not in accordance with their competency skills. As for the obstacles that occur at DU / DI: 1) the PSG program has not been entered into the quality objectives and ISO work instructions at DU / DI that have been ISO certified; 2) lack of discipline of

DSE participants; 3) lack of communication of PSG participants with counselors, and 4) delays often occur in giving grades (Mahmudi; 2013). According to Nurharjadm (2008), the problem that is felt in relation to resources is the limitation of subsidies provided by schools, which burden students in implementing DSE; there are still students who think that DSE in the industry is something that is done casually, so they often don't enter (ditching) and don't even pay attention during the implementation in DUDI.

According to Nurharjadm (2008: 219), for the management of teaching and learning activities in this dual system education there are several basic principles, namely:

- a. There is a connection between what is done in school and what is done at the partner institution as a whole series.
- b. Expertise practice in partner institutions is a whole, meaningful and value-filled learning process to achieve graduate competency.
- c. There is a continuity of the learning process with appropriate time in achieving the required level of competence. Process-oriented while being product-oriented in achieving graduate competence optimally.

## METHODS

This research is an evaluation research with summative evaluation because it was carried out after the program had been completed. There are several types of evaluation models. The researcher used the CIPP evaluation model that was first introduced by Stufflebeam in his book entitled Educational Evaluation and Decision Making. The CIPP evaluation model assesses 4 dimensions in accordance with the extension of CIPP itself, namely Context, Input, Process, and Product. The use of the CIPP model can provide a detailed description of the effectiveness of a program implemented. This research evaluated the implementation of the dual system education (DSE) program in the accounting expertise program of SMK PGRI 1 Ponorogo from 3 aspects, namely input, process, product. This program sees

the level of effectiveness from input aspects consisting of selection of competencies, determination of industry, preparation of program, debriefing of participant, and determination of mentors. The process aspect consists of compiling the DSE program journal, monitoring the DSE program, documentation of portfolio and product, namely the assessment of mentors, industry certification, score reporting. This study uses a quantitative descriptive approach. Data collection techniques using interviews, observation, and documentation. This study was conducted in

approximately one month for the process of assessment and file collection.

**RESULTS**

**Planning/Input of Dual System Education (DSE) Program:**

The data on the input/planning stages in the DSE program obtained from the results of the validation sheet from external parties are presented in Table 1 below:

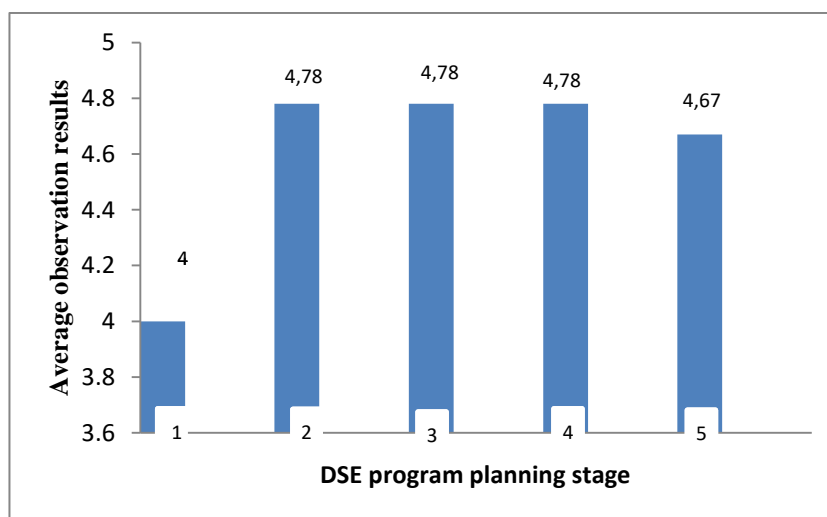
**Table 1.** Data from Planning/Input Stages in the Implementation of Dual System Education (DSE) Program in the Accounting Expertise Program at SMK PGRI 1 Ponorogo.

No	Indicators	Mean	Criteria	Conclusion
1.A	Selection of Competencies	4	≤ 4	Effective
1.B	Determination of Industry	4.78	≤ 4	Effective
1.C	Preparation of Programs	4.78	≤ 4	Effective
1.D	Debriefing of Participants	4.78	≤ 4	Effective
1.E	Determination of Mentors	4.67	≤ 4	Effective
	Overall average score	4.60	≤ 4	Effective

Effectiveness scale: 4

Based on the data presented in the Table above, the average scores of overall input/planning in the DSE program are the selection of competencies of 4, determination of industry of 4.78, preparation of program of 4.78, debriefing of participants of 4.78, and determination of the mentor of 4.67. The average score of overall planning activities is 4.60. The

score belongs to the criteria of ≤ 4, so it falls into the effective category. The stages of input/planning in the DSE program including the selection of competencies, determination of industry, preparation of program, debriefing of participant, and determination of mentors are presented in the form of a Figure as follows:



Information:

1. Selection of competence
2. Industry determination
3. Program preparation
4. Debriefing participants
5. Determination of counselors

**Figure 1.** Figure of Planning Activities in the Implementation of Dual System Education (DSE) Program in the Accounting Expertise Program at SMK PGRI 1 Ponorogo

Therefore, according to the data presented in Table 1 and Figure 1, the stages of input/planning in the implementation of the DSE program in the accounting expertise program of SMK PGRI 1 Ponorogo meet the criteria of  $\leq 4$ , so that they can be declared effective.

**The Implementation/Process of Dual System Education (DSE) Program:**

The data on the process/implementation stages in the DSE program obtained from the results of the validation sheet from external parties are presented in Table 2 below, as follows:

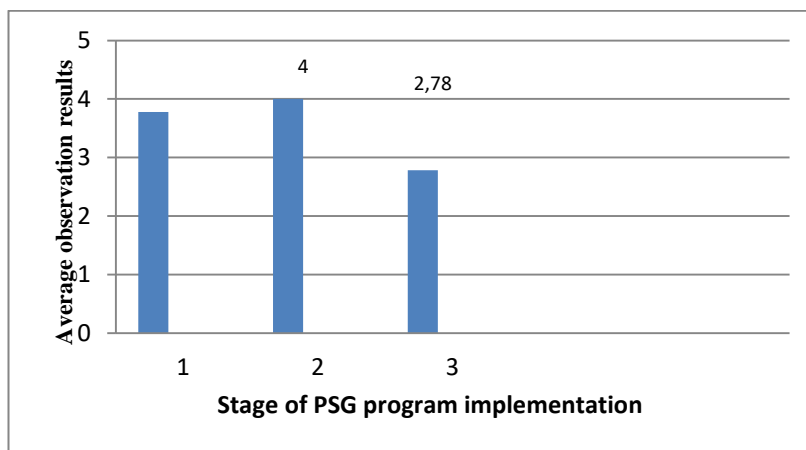
**Table 2.** Data from Implementation/Process Stages in the Implementation of Dual System Education (DSE) Program in the Accounting Expertise Program at SMK PGRI 1 Ponorogo.

No	Indicators	Mean	Criteria	Conclusion
2.A	Preparation of DSE Journal	3.78	$\leq 4$	Ineffective
2.B	DSE Monitoring	4	$\leq 4$	Effective
2.C	Portfolio Documentation	2.78	$\leq 4$	Ineffective
Overall average score		3.52	$\leq 4$	Ineffective

Effectiveness scale: 4

Based on the data presented in the Table above, the average scores of overall process/implementations in the DSE program are the journal preparation of 3.78, DSE monitoring of 4, and portfolio documentation of 2.78. The average score of overall implementation activities

is 3.52. The average score is in the criteria of  $< 4$ , so that it falls into the ineffective category. The stages of the process/implementation in the DSE program starting from the preparation of the DSE journal, DSE monitoring, portfolio documentation are presented in the form of the Figure as follows:



Information:

1. Preparation of the journal of DSE activities
2. DSE monitoring
3. Portfolio documentation

**Figure 2.** Figure of Implementation/Process Stages in the Implementation of Dual System Education (DSE) Program in the Accounting Expertise Program at SMK PGRI 1 Ponorogo.

So according to the data presented in Table 2 and Figure 2 which is the process/implementation stage in the implementation of a dual system education program (PSG) in the field of accounting expertise of SMK PGRI 1 Ponorogo namely implementation starting from PSG journal compilation, PSG monitoring, portfolio documentation. Preparation of PSG journals reached the criteria of 3.78 in the category of ineffective, PSG monitoring obtained 4

(effective), 2.78 portfolio documentation which was not effective.

**Assessment/Product of Dual System Education (DSE) Program:**

The data on the stages of the DSE program PSG assessment/product obtained from the results of the external party validation sheet are presented in Table 3 as follows:

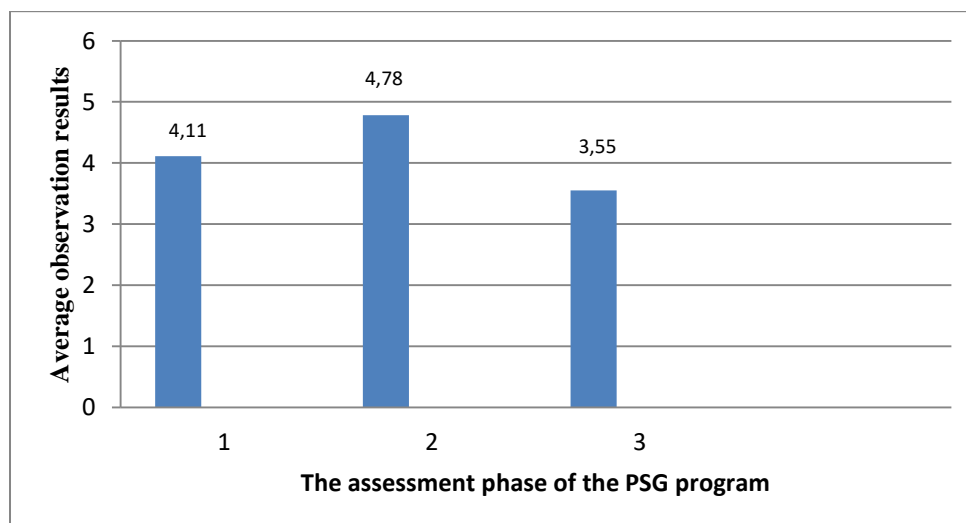
**Table 3.** Data from Assessment/Product Stages in the Implementation of Dual System Education (DSE) Program in the Accounting Expertise Program at SMK PGRI 1 Ponorogo.

No	Indicators	Mean	Criteria	Conclusion
3.A	Mentor Assessment	4.11	≤ 4	Effective
3.B	Industry Certification	4.78	≤ 4	Effective
3.C	Score Reporting	3.55	≤ 4	Ineffective
	Overall average score	4.14	≤ 4	Effective

Effectiveness scale: 4

Based on the data presented in the Table above, the average scores of the overall data in the stages of assessment/product of the DSE program are the mentor assessment of 4.11, industry certification of 4.78, and score reporting of 3.55.

The average score of the overall assessment activities is 4.14. The score in the criteria of ≤ 4, so that it falls into the effective category. The stages of assessment/product of the DSE program are presented in the form of Figure as follows:



Information:

1. Advisory assessment
2. Industrial certification
3. Report value

**Figure 3.** Figure of Assessment/Product Stages in the Implementation of Dual System Education (DSE) Program in the Accounting Expertise Program at SMK PGRI 1 Ponorogo.

Thus, according to Table 3 and Figure 3 which presents a portion of the implementation of a dual system education program (PSG) in the field of accounting expertise at SMK PGRI 1 Ponorogo namely the assessment of PSG starting from the assessment of supervisors, industry certification, score reporting. The stages of assessment/product of a dual system education program (PSG), namely the assessment of the supervisor fulfils the criteria of 4.11 (effective), industry certification obtains 4.78 (effective), while the score reporting reaches 3.55 (not yet effective).

## DISCUSSION

This research proves that the implementation of the DSE program in the accounting expertise program at SMK PGRI 1 Ponorogo consisting of three stages, namely planning, implementation, and assessment, has not been effective. The results of the assessment/evaluation sheet are in the form of scores per indicator calculated on average for each indicator to determine the level of effectiveness of the implementation of the DSE program. The effectiveness of DSE program implementation can be seen from the results of the average score of each indicator based on the predetermined criteria. The implementation of the DSE program is effective if it reaches a scale of 4. Meanwhile, the average score in this research only reaches 3.75, so that this can be said to be not effective. The following is the explanation of the effectiveness of each component from planning, implementation, and assessment.

### **The Effectiveness of Input/Planning Stages in the Implementation of the Dual System Education (DSE) Program in the Accounting Expertise Program of SMK PGRI 1 Ponorogo**

Based on the results of data analysis of the input/planning components for DSE program, the selection of competencies obtains 4, determination of industry 4.78, preparation of program 4.78, debriefing of participants 4.78, and determination

mentor 4.67. From these results and the overall average score that has reached scale 4, equal to 4.60, stages of assessment/product of the DSE program can be said to be effective.

### **The Effectiveness of Process/Implementation Stages in the Implementation of Dual System Education (DSE) Program in the Accounting Expertise Program at SMK PGRI 1 Ponorogo.**

Based on the results of data analysis, the components of the process/implementation stages start from the preparation of journals (3.78), monitoring (4), and portfolio documentation (2.78). From these results, it can be concluded that the preparation of the PSG journal is in the ineffective category because it is less than scale 4. It proves that not every journal is filled with activities that have been carried out and the scores that should have been given by the industry. For DSE monitoring, it can be said to be effective because it meets the criteria of scale 4. The portfolio documentation can be said to be ineffective because it is less than scale 4. This is evidenced by the portfolio documentation file obtained when the researcher went to school. It was found that the portfolio documentation arrangement did not comply with the applicable DSE implementation guidelines issued by the Ministry of Education and Culture in 2017. This corresponds with the opinion of Sabatier and Mazmanian (in Nurharjadmo, 2008: 218), which considers that an implementation will be effective if the implementing bureaucracy adheres to what has been outlined by the regulations (implementation instructions and technical instructions).

### **The Effectiveness of Components of Assessment/Product Stages in the Implementation of the Dual System Education (DSE) Program in the Accounting Expertise Program at SMK PGRI 1 Ponorogo**

The data analysis of the components of the assessment/product stages resulted in the mentor assessment of 4.11, industry certification of 4.78,



and score reporting of 3.55. Both components of mentor assessment and industry certification can be said to be effective because they reach a scale of 4 while score reporting obtained 3.55 considered as quite effective because it is less than the scale of 4. Score reporting is ineffective because it was compiled not according to the guidelines valid until now and published by the Ministry of Education and Culture in 2017.

## CONCLUSION

Based on the results of observations and the above theories, to evaluate the effectiveness of the implementation of the PSG program from the planning, implementation, and assessment stages can be seen in the results of the student journal and portfolio documentation that has been compiled.

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