

# An Analysis of Production Units Implementation in Vocational Schools in Aceh Besar, Indonesia

Nasir Usman<sup>a\*</sup>, Murniati AR<sup>b</sup>, Ulfah Irani<sup>c</sup>, Faizar Abdurrahman<sup>d</sup>, Mukhlisuddin Ilyas<sup>e</sup>, <sup>a,b</sup>Educational Administration Management, Syiah Kuala University, Indonesia, <sup>c</sup>STMIK Banda Aceh, Indonesia, <sup>d,e</sup>STKIP Bina Bangsa Getsempena, Indonesia,

This study aims to analyse the planning, implementation, development and evaluation of production units in Vocational Schools (SMKs) in Aceh Besar District, Indonesia. The study employed descriptive qualitative research. This research was done in two SMK specifically SMK 1 Mesjid Raya and SMKN 1 Al Murbakeya. The subjects were the schools' top management, teachers and the school committees. The instruments used to collect the data were interviews, field observations and documentary study. The research study found the implementation of the production unit was the integral planning system that must be designed appropriately, to obtain the targeting output of the unit of production in the vocational school, as the embryo of student involvement in the world of work globally, to fulfill the need of manpower with better skills.

**Key words:** *Production unit, vocational school, business unit, implementation, world of work.*

## Introduction

Vocational Education is a part of secondary education that prepares students to work in the world of business and industry. The implementation of the dual system of education with the concept of link and match is a milestone for the basic steps of the government in involving industry in the world of education. Vocational Education that integrates practical production processes with the world of work and industry is expected to be able to provide work experience and open opportunities for SMK graduates in the future (Tripney & Hombrados, 2013; Watters, Hay, Dempster, & Pillay, 2013; Yasin, Nur, Ridzwan, Ashikin, & Bekri, 2013).

Vocational Education is expected to prepare learners to become fully capable to improve their quality of life, to develop themselves to gain expertise, and to open up possibilities for them to get income for themselves and for others (Ananda & Mukhadis, 2016; Munastiwi, 2015). Vocational schools are required to prepare students to become productive workers who are able to meet the needs of the world of work and to change the status of the learners from being dependent on income from others to be an independent productive earners (Aw, 2019).

Empirical studies shown that many problems have been encountered in vocational education management in Indonesia, especially Aceh, including that the relevance of the training and the competency of the graduates was not in accordance with market demands (Qotimah, Basuki, & Muslim, 2019; Soemartono, 2016) Future employment of graduates is still not resolved and the relationship of the material taught with the requirements of potential internships in the world of business and industry, has not been a top priority for the SMKs and the teachers (Fathoni et al., 2019). As a result, the quality of vocational education is still very low and the access to work opportunities following vocational education is still poor (Daryanto, 2014).

Furthermore, low investment and low participation in the world of business and industry, lack of programs and IT skills and inadequate infrastructure for working practice have become obstacles for developing vocational education in Aceh and in Indonesia (Ilyas & Sibuea, 2019). A critical study conducted by Retnawati, Hadi, & Nugraha (2016) revealed that majority of vocational school currently only functions to organise vocational education and prepare graduates for work. Training for other important roles has not been carried out, for example, training for the unemployed, training for the employees of companies, the development of production units (*teaching factory units*), SMKs going into the industry (teaching for industry), professional certification, competence tests and training in materials development (Moses, 2017). Therefore, the resources owned by SMKs have not yet been maximised appropriately for the development of the SMKs and for the development of their communities and for the nation (Firman & Tola, 2008).

In this study, the planning steps were analysed to obtain the qualitative data on how the production unit at the vocational school was able to answer the need of the world of work and SMK as the supply chain of manpower for the industry. Furthermore, the establishment of the

production unit was employed to create the miniature of the field of work that will influence the positive feedback for students.

## Literature Review

### *Vocational School Strategy in Implementing the Production Unit*

Indonesian Government Regulation Number 29 of 1990, section 29, clause 2, states "to prepare productive workers, an SMK can establish production units that operate in a professional manner". The existence of a production unit activity or a *teaching factory* is also intended to enable the SMK to be able to add to the school's finances and to help fund the maintenance and replacement of school equipment, as part of the effort to develop the human resources and work program of the SMKs. Therefore, the SMKs should ideally provide appropriate learning experiences for the student through the development of their production units so that the student is able to improve their productive competence professionally, and to become confident learners and encourage students to apply for jobs in the real world of work (Bjork, 2003).

The production units should be incorporated as legal business units. Hence the SMK Head master must delegate a special authority from the school to the Director of each Business Unit (BU) to perform the tasks and responsibilities needed with the purpose of providing opportunities for the student and teachers to market services and goods produced, develop the entrepreneurial character among the teachers and students, provide funds for maintenance especially equipment maintenance, provide additional facilities and also helping meet other educational operational costs; increase creativity and innovation amongst the students, the teachers and the school management, and develop the business unit production of the school to provide real life working practices for the students in the world of work and industry"(Priyono & Nankervis, 2019; Setiawaty & Tjahjono, 2019; Yoto, Marsono, Irdianto, & Basuki, 2019).

The development of a production unit can be a strategy to form a partnership with the world of industry and business to get real-world work experience for vocational education in order to prepare professionally qualified skilled workers (Al-Awbathani, Malek, & Rahman, 2019; Gamede & Uleanya, 2019). In previous research conducted by Rentzos, Doukas, Mavrikios, Mourtzis, & Chryssolouris (2014), the implementation of the production units in the SMKs aims to give the students an experience of the real conditions in the world of business and industry (van der Bijl & Taylor, 2018).

The implementation model for the school's production units (production based education) can contribute positively to the existence of production units in vocational education institutions; this action is able to create the quality of work ethos and skills, prepare students for real-life work circumstances, and able to grow students' character in discipline, self-confidence, responsibility, leadership, and harmonious cooperation (Yulastri,

Hidayat, Ganefri, Edya, & Islami, 2018). The development of production units can also be used as a means of improving the results of learning (Suryadi & Supriatna, 2018).

## **Methodology**

This study is a descriptive qualitative research. The purpose of this research is to describe systematically and accurately information about the implementation of a production unit in the Vocational School in Aceh Province, Indonesia. In this case, the writers were going to find out whether or not the implementation of productions unit works effectively in the vocational school in Aceh Province. This research topic is worthy since many previous researches have less content about the implementation of the production unit, whereas the production unit as apart of school training that can increase the students' competencies before being involved in the world of business and industry in the future.

This research was done in two SMK vocational schools in Aceh Besar District, specifically SMK 1 Mesjid Raya and SMKN 1 Al Murbakeya. The subjects of this study were thirty personnel in vocational schools including: the schools' top management, the school principals, the vice principals, teachers and the school committees. The instruments used to collect the data were interviews, field observations and study of relevant documents.

## **Result**

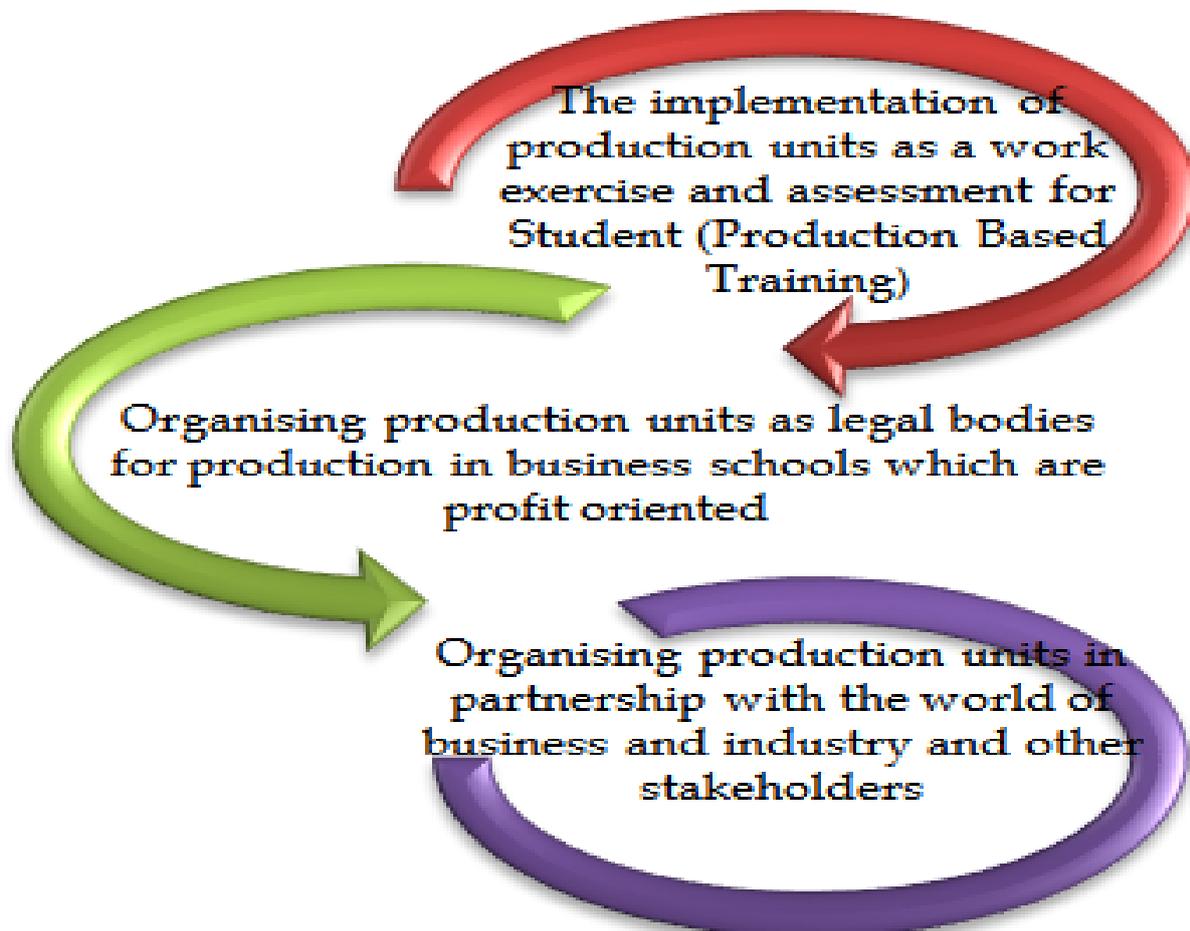
### ***Planning of Production Units in Vocational Schools in Aceh Besar***

Based on the result analysis that was done, the production unit in vocational schools in Aceh Besar was not planned and the design was applicable with respective fields of expertise. However, the production unit tended to create the production unit based on the service unit, especially in the field of direct customer services. The planning activity for the production unit has yet to show the intelligibility of purpose that can be measured in a series of procedures and target of consumers. The planning steps were still performed incidentally and not prepared appropriately. Whereas the important points of planning of the production unit included product development, system, and processes that are needed to meet the customer needs, besides estimating the barriers, application of device, techniques, reduced costs, quality of work, and increased competitive advantages. Furthermore, the importance of hen

the steps that need to be done in the planning stage was to include: determine the customers, identify the needs of customers, develop quality products, develop the systems and processes that allows the organisation to produce the best quality products, and develop the plans to the operational level.

### *The Program and Development Strategy for the Production Unit*

**Figure 1.** Strategy for Implementation of Production Units of SMK in Aceh Besar



The production unit is one of the strategic programs which is applied by the vocational school in introducing the industrial and business environment in the frame of education. The production units are intended to be able to give a real picture of the work environment which will be faced by students in the future, to improve the competence, and to foster entrepreneurial spirit.

Figure 1. above shows the flow process of the implementation of production units in Aceh Besar. It starts with the model of the business entities that work in the fields of servicing and production. Services are carried out through contracts or subcontracts with partners and customers directly. While profit-oriented production units such as the school canteen only market products limited to the school environment during the school semesters. More information showed that, the production units were being organised as a work exercise (*on-the-job training*) for students and were only producing products for learning activities and for

student assessment purposes, not primarily to market products aimed at external costumers. The production of batik Aceh clothing by the students of SMKN 1 Mesjid Raya was initially produce for internal purposes of school.

Furthermore, the final stage of organising production units in partnership with the world of business and industry is done through co-operation in fields such as machinery services, computer maintenance, and advertising, although, the school has organised a production unit. However, based on observation and documentation conducted, in this study it was found that the implementation of the production units in vocational schools generally was not optimally managed.

Ananda & Mukhadis ( 2016) also reported that the activities of the production unit at the vocational school was not the priority; this is shown from irregular activities (Ananda & Mukhadis, 2016). The implementation of good production units must include a guarantee of the quality of the products and services provided. The production unit is a program in an effort to promote the vocational school; if the school has successfully implemented proper management, then the school will be able to transfer the work experience and high motivation to the students (Schenkel, Farmer, & Maslyn, 2019).

In organising the production unit, there are some of problems facing implementation work. Based on the results of an interview with the representative of quality management, for SMKN 1 Mesjid Raya, the obstacles that were found regarding production unit existence was the product marketing chain; the marketing work can be solved by bridging the connection in cooperation work between the PU and the company, by forming agreement between the institution and the company in ensuring the continuity of the marketing process.

### ***Evaluation of the Implementation of the Production Unit***

The evaluation of the production unit is the integral part of quality control of the production unit itself. Hence the evaluations, including internal and external evaluations involving the world of work and evaluation from the point of view of meeting the customers' need in order to make corrections and improvements of the quality of the service production units, so that

the capabilities and skills of the student can be improved. In this research, findings indicate that the evaluation of the implementation of the production unit were only made in the form of providing an accountability report for the school management and also a financial report for the production unit for the school management. Evaluation is the reflection part of a series of planning, implementation, monitoring, supervision, and control of the operation of the production unit, so it is not surprising that the evaluation becomes an important part in assessing the success of the programs that have been organised.



## Conclusions

The planning of the production unit at vocational schools can be done through various stages including the determination of the vision, mission and objectives followed by the socialisation of the planned production units and the whole school community. The implementation of production units in vocational schools in Aceh Besar District has been done in the fields of services, maintenance, small scale production and local trade. The strategy for development of production units can be done through school work exercises and assessment for students (Production Based Training), organising legal production units (PUs) as bodies for production and service businesses in the schools which are profit oriented, and organising production units in partnership with the world of business and industry and other stakeholders. Evaluation of the implementation of production units at the SMKs in Aceh Besar has been done, but it has been limited to the provision of management reporting documents and financial reports for the school management itself. The schools did not arrange for the external evaluation of their production unit activities such as handling customer complaints and improving customer satisfaction. The obstacles faced by the vocational schools, in conducting production units in Aceh Besar are marketing problems, co-operation with the world of work and other potential stakeholders, development of facilities, analysis of the production unit businesses, creating legality for the business units, and getting the enthusiastic participation of teachers and other education workers/students who want to be involved in the development of the production units in the school.

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