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CONFORMITY OF AGRICULTURE VOCATIONAL SCHOOL CURRICULUM: SKILL COMPETENCY OF AGRICULTURAL PRODUCT PROCESSING AGRIBUSINESS WITH THE NEEDS OF THE WORLD OF WORK

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ABSTRACT: *Vocational school (VS) aims to prepare students to work in industries or to create their own jobs. Therefore, it is important for VS to prepare students to have better competencies needed by industries. The study aims to 1) review the suitability of the competencies of agriculture vocational school graduates, skill competency of agricultural product processing agribusiness with the competencies needed by the world of work; and 2) review the pattern of synchronization mechanism of agriculture vocational school's curriculum in the intended competencies. Secondary data ws analyzed combined with the result of Focus Group Discussion in sample areas of study. The research results showed that 1) curriculum of agriculture vocational schools in the skill competency of agricultural product processing agribusiness is in accordance with the competencies needed by the world of work based on Level II Indonesian National Work Qualification Certification Scheme. However, there are (a) "inapplicable" core competencies (*CC *-3 and* CC *-4) in the subjects of production and processing of plantation and herbal commodities, production and processing of hardwood commodities/products (coconut, palm oil and rubber). This is due to no plantations and/or industries for processing these commodities around the locations of the sample schools, (b) core competencies and basic competencies are lack depth in the competencies needed by the industry, namely identification of tubers, fresh fruits, and vegetables for the production unit on the subject of production of processing vegetable products, and 2) legally and formally, there is no pattern of synchronization mechanism of these competencies, the existing synchronization pattern is incidental based on input from the alumni of the sample schools and/or through consultations of schools with industry as partners. this study concluded that the skill competency of agricultural product processing agribusiness refers to level II Indonesian National Work Qualification Certification Scheme, but the implementation varies depends on schools' facilities, quality of particularly teachers of productive subjects, and the collaboration with industrial partner.*

KEY WORDS: Vocational School, curriculum, skill, competence, agriculture, agribusiness, the world of work

INTRODUCTION

The goal of vocational school (VS) is to prepare students to work in industries or to create their own jobs. Therefore, VS should prepare their students to be able to have competencies and skills to meet the needs of the industries as well work force. Regulation of Government No. 17 of 2010). VS graduates are expected to have five competencies to meet the needs of stakeholders: 1) social needs; 2) industrial needs; 3) professional needs; 4) vision; and 5) scientific needs. They are also prepared to do business/entrepreneurship and to manage agricultural corporate- and startup-level companies and this entrepreneur profession need to be

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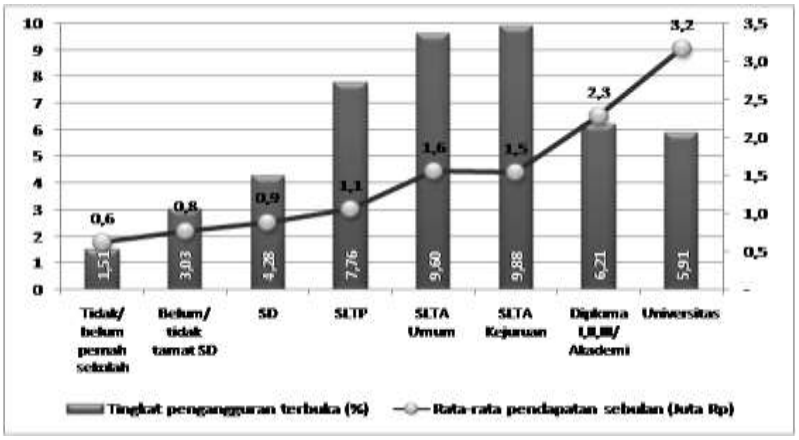
increased due to the needs of the lifestyle of caring the health. Therefore, the choice of good and health agricultural products is also a business opportunity in the sector of agricultural product processing agribusiness.

The sector of agribusiness/agrotechnology is one of the four development priority scales of Indonesia in which the priority sector provides employment opportunities for VS graduates. The facts that a gap still occurs between the number of VS graduates and the number of business/industrial (the world of work) needs. Data on VS graduates in 2016 in the sector of agribusiness/agrotechnology were 445,792 persons, while the workforce needs of the sector were only 52,319 (DEP, 2016).

The Ministry of Education and Culture (MOEC) Indonesian focused more on preparing high-quality and highly competitive human resources. This is in response to increase the nation's competitiveness and the challenges of competition in the global era. Thus, VS need to be improved systematically and comprehensively. This is done not only to make VS graduates ready to fulfill the needs of the labor market, but they also have a highly competitive advantages (Ha-Brookshire and Lee, 2010) and be able to reverse the pyramid of workforce qualifications which is now still dominated by elementary school and junior secondary schools gruduates. A highly competitive and skilled workforce, one of which is produced by vocational training which relevant to the demands of the business and industry. This condition is based on The Central Bureau of Statistics (CBS, 2013) which states that the proportion of open unemployment based on completed education shows that VS graduates reached the highest number (9.88%) compared to graduates from other education units.

Figure below shows that Vocational School (VS) graduates reached 9.88%, Senior Secondaray School (SSS) graduates reached 9, 60%, Junior Secondary School (JSS) graduates reached 7.76%, Elementary School (ES) graduates reached 4.28%, not yet/did not complete elementary school reached 3.03%, never/not yet attend school reached 1.51 5,%, Diploma (I, II, III)/Academy graduates reached 2.3%, and Universities reached 3.2%.



Resource: The Central Bureau of Statistics (CBS 2013): August 2013 (http://www.bps.go.id/ menutab.php?)

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The main problems in organizing VS learning process are 1) not all the skill competencies in VS are in accordance with the needs of the industry, 2) the competency of graduates does not meet the needs of industry, 3) competent graduates have not received any official recognition in the form of competency certificates, 4) lack of information to the industry about the competency at VS, 5) lack of information about the needs and job opportunities for VS graduates in the industry, 6) some policies does not support VS, and 7) lack of support from other related institutions such as the Directorate of Vocational School (DVS, 2016).

In addition, the implementation of VS indicates that there is still 1) a single function of preparing students to work in certain fields as employees; 2) weak in preparing graduates to become entrepreneurs; 3) slow in its responsiveness to the dynamics of the demands of economic development; 4) not optimal of the synchronization with the world of work; and 5) not provision assurance for the graduates to get a job (Harjo, 2013). Nevertheless, DVS has made a lot policies to develop VS, however the implementation does not run well which makes the quality of VS is unable to be improved and the effect of it the graduates find difficult to get a suitable jobs for their professional career such as: a) not all VS graduates are immediately to get decent jobs b) they are incapable of able to work independently, lack of professional productive teachers; c) lack of community participation; d) the learning quality still low; e) challenges to rapid changes of industry, and f) lack of effective collaboration between schools and the world of work.

By taking into account the various problems of Indonesian human resources quality, the government produced a policy to make the related ministries and related institutions (11 Work Cabinet Ministers; 34 Governors, and the Head of National Agency for Professional Standars/NAPS) to work collaboratively to revitalize the vocational education and training system by a reorientation of vocational education and training towards the demand driven (Presidential Instruction Number 9 of 2016) and to be able to face the “demographic bonus” to realize “Golden Indonesia” to coincide with 100th Indonesian independence (Jalal, 2015). There are three important factors for maximizing human resources (HR) include: 1) building a flexible education system, 2) developing and updating the required skills, and 3) improving professional abilities (Asian Development Bank, 2014).

Being aware of the importance of the development science and technology and the needs for skilled workforce, ASEAN countries place vocational education as one of the main supporting sources of sustainable economic and social development. The integration process of ASEAN and its institutions supports the sharing of knowledge, synchronizing the education system through negotiations on equality of recognition, and opening opportunities for a more open labor market. This Presidential Instruction No. 9 of 2016 has the spirit of giving meaning to Indonesian people that the existence of VHS is not only important, but strategic enough in order to prepare VHS graduates who are competent and ready to work for economic development. Therefore, since 2015 Indonesia has become a member of ASEAN Economic

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Community (AEC) to strengthen the competitiveness of opportunities for in and out mobility of competition for labor force among fellow ASEAN members.

The main challenge for Indonesian people in the present and in the future is the increasing competitiveness and competitive advantages in all industrial and service sectors by relying on the capability of its human resources, technologies and management. Competitive values are needed to build national competitiveness and economic sustainability. Vocational Schools are one of the big assets. Therefore, one effort that needs serious attention is that Vocational Schools need to be handled professionally by involving all elements of education stakeholders so that prospective Indonesian workforces are able to compete with prospective workers from other ASEAN countries.

These conditions need to be addressed wisely and readily, provided that only a qualified and skilled workforce will be able to survive and compete with workers from other countries. Thus, it becomes important when the vocational education system (VS) in Indonesia can develop various strategies so that graduates are qualified and competent according to the needs of stakeholders on a global scale (DVS, 2016).

Regarding the background above, the research questions are formulated as follows: 1) What kind of graduates' competency of Agriculture Vocational Schools in Agricultural Product Processing Agribusiness is in accordance with the competencies needed by the world of work? and 2) What is the pattern of the curriculum synchronization mechanism of Agriculture Vocational Schools in Agricultural Product Processing Agribusiness skill competency so that the competencies of its graduates are in accordance with the needs of the world of work?

On the basis of those research questions, the purposes of this study are to 1) review the synchronization of Agriculture Vocational Schools curriculum of Agricultural Product Processing Agribusiness skill competency in accordance with the competencies needed by the world of work; and 2) review the pattern of curriculum synchronization mechanism of Agriculture Vocational Schools of Agricultural Product Processing Agribusiness skill competency based on industrial needs.

LITERATURE REVIEW

Synchronization of VS Curriculum. Synchrony is a relationship or connectivity between one element and another or a relationship between one institution and another. The relationship is based on a common goal, concept or understanding. In education, synchrony can be viewed from various aspects, including internal relations in education itself and relationships with other parties outside of education. Internal relations in education can be seen from relationships regarding education level. Synchrony in education may also be viewed from the relationship between education and other institutions outside of educational institutions such as the relationship between education and the business and industry (the world of work), society, or the government.

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Synchronization between VS curriculum and the world of work is directed at improving graduates' competency needed by the world of work, community, government/non-government institutions, or independent work/enterpreneurship. Akhmaloka, the rector of Institute of Technoloy Bandung (ITB) at a scientific speech in the series of open session of ITB in commemoration of the 94th Technical Higher Education Day in Indonesia stated that synchrony means having a relationship or connectivity (Akhmaloka, 2014), improving and strengthening connectivity systematically (http://www.itb. ac.id/news/ 4425.xhtml).

Based on this concept, the synchronization of education with the world of work is in line with the philosophy of link and match in vocational education in Indonesia known as Dual System Education (Djojonegoro, 1998). The relevance of both is able to improve the competence of VS graduates so that they are able to work based on the industrial needs as Stevenson (2003) states that "the purpose of vocational education is to meet the needs of industry, meaning that the 'client' or 'customer' is industry and that industrial standards for work activity should be used as the primary (even exclusive) basis for curricular statements and teaching". Therefore, the scenario of synchronizing vocational education must take into account the competencies needed by industry and available education and training capacities. One of the trends of increasing competency in vocational education and training (VET) is technopark. In addition to for training, it is also used as a place for scientific and technological research that can be utilized by industry. Futher, technopark can also be used by VS to train students and teachers to improve their competency/skills (Noor and Waluyo, 2019).

The existence of VET program is still a debate in many developing countries (Oketch, 2007). However, the success of VET is important to include in developing countries' development strategies, as this program can prepare individuals with the skills needed by the industry and also help reduce unemployment rates (Willkins, Stephen, 2002). VET is seen as a way out to unemployment problems (Eichhorst, et al. 2015). It is considered as an effective way of supplying skilled workforce needs, as an option other than general secondary education for students who are weak in academics, as a solution to increase opportunities for young people who do not have enough finance, expertise, or motivation to continue to higher education, as a way to increase life expectancy for youths who have not got a job and groups with disabilities and as a way to provide the needs of technicians in the industry (Eichhorst et al. 2015, Oketch, 2007).

The synchronization of vocational education and training (VET) must be in accordance with the real needs of the industry so that employees' productivity increases and is of high quality. Conversely, if it is not relevant to the needs of industr, it will be non-conformity (mismatch) between VET and the needs of industry and the results achieved will lead to inefficiency and ineffectiveness of the program. This means that there is a high gap between supply and demand for work, and most of the graduated ones choose to work in big cities compared to their own regions and manage their natural resources (Kemdikbud, 2015). Therefore, efforts to strengthen cooperation between the Ministry of Education and Culture, the provincial and regional governments that manage vocational schools, and industry need to be done to improve

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the competencies and skills of VS teachers and students through training both in industry and technopark (Presidential Instruction No. 9 of 2016; Noor and Waluyo, 2019).

In addition, efforts need to be made to synchronize the vocational curriculum in accordance with competencies in the business/industry so as to minimize the gap between instructional learning and teaching at schools and work practices in the industry and at the same time minimize the gap between technology used in industry and schools (Edi, Suharno, Widiastuti. 2017).

The synchronization of VS and the world of work requires the development and strengthening of supporting components, includes: 1). the development of vocational education facilities evenly: a) Providing vocational infrastructure and facilities so as to be able to improve the quality of education services in VS according to regional needs; b) the developing VHS as a competence examine site (TUK) and certification executors for vocational students and the community; 2). improving the quality of vocational teachers: a) Training teachers with dual competencies (double competence) and b) Enacting the rules of compulsory work experience practices for vocational teachers; 3). accompanying VHS in improving the staffing system in schools so that they can employ experienced teachers to be able to teach in VS as part-time guest teachers (DVS, 2016).

Vocational school curriculum. According to Mulyasa (2014), Curriculum 2013 is a curriculum that emphasizes character education, especially for the basic level which will be the foundation for the next level. Law No. 20/2003 about the National Education System states that curriculum is “a set of plans and arrangements regarding the purpose, contents, and materials of learning and the methods used as guidelines for implementing learning activities to achieve certain educational goals” (MOEC, 2003).

Curriculum 2013 has the following characteristics: a) curriculum contents which are the competencies expressed in the form of core competencies (CC) of education units and classes, further specified in basic competencies (BC) of subjects; b). core competencies is a categorical description of competencies in aspects of attitudes, knowledge, and skills (cognitive, affective, and psychomotor) that students must learn for a level, class, and subject; c). Basic Competence (BC) is the competency learned by students, d). CC and BC at the primary education level are prioritized in the attitude domain, but in the secondary level, attitudes and intellectual abilities (high cognitive abilities) are balanced; e). Core competencies become organizing elements of Basic Competencies of which all BC and learning processes are developed to achieve competence in Core Competencies; f). developed basic competencies are based on accumulative principles that reinforce and enrich each other between subjects and levels of education (horizontal and vertical organizations) bound by core competencies; g). syllabus is developed as a learning design for one theme. In the syllabus, all BC for the theme or subject in the class are listed; and h). Lesson plan is developed from each BC for each subject in each class (Regulation of Director General of Elementary and Secondary Education No. 464/D. D5/KR/2018).

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Based on the Regulation of Director General of Elementary and Secondary Education No. 06/D. D5/KK/2018, the spectrum of the VS/Islamic Vocational School (IVS) curriculum (curriculum-13) is grouped into 9 (nine) areas of competencies, one of which is agribusiness and agrotechnology. These areas are developed into 3 (three) skill competencies, namely 1) agricultural product processing agribusiness, 2) quality control of agricultural products, and 3) agro-industry (regulation of directorate general of primary and secondary education, No. 464/D. D5/KR/2018). Furthermore, a structure of vocational curriculum is based on the regulation of director general of elementary and secondary education No 06/D.D5/KK/2018), classified into three groups of subjects, namely group A (containing nationalism insights), group B (containing nationality insights), and group C or vocational specialization, consisting of subject groups of C1 (basic area of competency), C2 (basic skill program), and C3 (skill competency).

Referring to the vocational curriculum structure (Curriculum-13), subjects taught in full contain core competencies (CC) and basic competencies (BC). CC is the level of ability to achieve Graduate Competency Standards (GCS) that must be mastered by students at each class or program. CC is a translation or operationalization of GSC in the form of quality. CC is not to be taught, but to be formed through learning relevant subjects. Each subject is subject to the formulated CC. In other words, all subjects taught and studied must contribute to the formation of CC. CC is a binder of competencies that must be resulted from studying each subject. In this case, CC acts as a horizontal integrator between subjects. With this understanding, CC is the competency requirement of students, while subjects are the supply of basic competencies that students will learn through the proper learning process.

Competency. Competency meanas a set of abilities concerning attitudes, knowledge, and skills that must be mastered by students after learning certain contents (basic competencies). The mastery of competencies in learning generally takes place in sequence. However, the learning process to achieve attitudes does not take place explicitly, but is integrated in learning the knowledge and skills facilitated by the teacher. If the teacher wants students to be critical, then the teaching materials when studying knowledge and skills should include assignments or questions that exercise students to think critically.

Competencies according to vocational curriculum (Curriculum-13) are interpreted as abilities integrated from knowledge, attitudes, and skills to do something meaningful in life. Meanwhile, Finch & Crunkilton (1984) stated: “competency is defined as mastery of a task, skills, attitudes, and appreciation needed to support success”. This opinion shows that competency includes the tasks, skills, attitudes, and appreciation that must be mastered by students to be able to carry out tasks that are suitable for certain types of work.

Therefore, there is a relationship between the tasks students learn in schools with abilities needed by the business or industry. Competencies that must be mastered by students in this study are all activities carried out by students that aim to change behaviors including

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knowledge, attitudes and skills. Thus, it can be concluded that competency is a combination of knowledge, skills, values, attitudes, and appreciation as behavioral changes that result from the learning process to be able to carry out certain tasks with the capabilities needed by the business/industry.

Referring to level II Indonesian National Work Competency Standards (INWCS) Scheme, competency is more oriented to skills that support certain positions, in accordance with the definitions that "Indonesian National Work Competency Standards is a description of capabilities that include minimum knowledge, skills, and attitudes that a person must have to occupy certain positions that apply nationally". Hence, the definition of competency from any source will still refer to the ability to carry out tasks/work (Presidential Decree No. 8 of 2012).

Referring to the Regulation of Director General of Elementary and Secondary Education No. 464/D. D5/KR/2018 concerning Core Competencies (CC) and Basic Competencies (BC), VS Subjects are grouped into 3 (three), namely National Content (A), Regional Content (B), and Vocational Specialization Content (C). Vocational Specialization content (C) is further divided into 3 (three) groups namely 1) Basic Areas of Skill (C1), 2) Basic Skill Program (C2), and 3) Skill Competency (C3). Competency in the three Vocational Specialization contents is a combination of knowledge, skills, and attitudes reflected in the habit of thinking and acting. Competency can be interpreted as knowledge, skills, and attitudes mastered by someone who has become a part of him/her, so that he/she can do cognitive, affective, and psychomotor behaviors as well as possible (Muhammad Rohman and Amir, S., 2013: 185).

In education and training, competency testing of students/learners is done as an effort to find out the students' competency achievements that have met a certain competency standard. Measurements can refer to the standards set by the authorized institution, namely the National Agency for Professional Certification (NAPC) which refers to level II Indonesian National Work Competency Standards (NAPS and DGPSE 2017).

Referring to the opinion of Putu Sudira (2006), several useful methods to measure the competency of vocational students are a) Observation, the examiner observes the test participant who is doing a particular task. This method can show evidence about the skills and attitudes of the person being tested; b) Demonstration and questions, an observation consisting of structured practice demonstrations carried out by test participants and examiners. Students' skills and knowledge will be shown and decision making will immediately be possible: competent or incompetent; c) Written tests, this method is used to measure the level of knowledge or to ensure students' potential competence; d) Oral tests, used in conjunction with practical exams or to test the speed and accuracy of practice; e) Project, this measurement is carried out without supervision in which participants may have to work in groups; f) Simulation, a measurement method in which the assignments/exam material and situations are made as closely as possible to the actual work environment; g) Portfolios, this method is used to test the skills that have been achieved in the past. This is sufficiently convincing evidence

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of one's competence; and h) Computer-based testing, in the form of interactive questions and answers so that examiners can assess the test participants.

The Ministry of Education and Culture is determined to improve Vocational Schools oriented to the needs of the world of work. This is as confirmed by the Minister of Education and Culture, Muhadjir Efendi that "we believe that VS is capable of creating competent HR according to the needs of the labor market" (in the magazine SMK Bisa Hebat, 2nd edition 2016). Link and match between the competencies and qualifications of VS graduates towards the needs of the world of work is an important issue in the policy of vocational education in Indonesia. This condition is a big concern for the Ministry of Education and Culture through various policies, including revitalizing VS (Presidential Instruction No. 9 of 2016).

Relevant Research Results. The contribution of vs in improving the quality of human resources and governmental partisanship indicated that 1.) the high enthusiasm of students to attend VS is also not accompanied by the readiness of most of the VHS in Situbondo district to prepare facilities and infrastructure as well as reliable and competent educators, so that this ultimately results in less optimal goals of improving student resources, and 2.) the government's partisanship in the management and development of VS are still not optimal, as seen from the absence of macro policies in the form of regional regulations in the management and development of VS. The micro-policy carried out by the related agencies is still not optimal and professional in its implementation, as seen from the inability of the education office to innovate in developing vocational schools (Said, 2017). The researches also show that in principle not all competencies obtained in VS are linked and match with the competencies needed by the world of work, thus VS still need to collaborate with the world of work to adjust the competencies required by bussines and industry (Widiyanto, 2010), Gunadi, Tawardjono Usman, Isma Widiaty, 2013). Therefore, to achieve competency optimization of VS graduates, it is important to create learning conditions based on the curriculum described in the Lesson Plan supported by quality productive teachers, adequate learning facilities and infrastructure, community participation, local government controll, and the involvemenet of business/industry to make link and match.

RESEARCH METHOD

This study employed quantitative and qualitative approaches using meta-analysis method to map competency units in the Level II Indonesian National Work Competency Standards Indonesian National Work Competency Standards Scheme to the agricultural product processing agribusiness skill competency adopted into the curriculum and further outlined in the lesson plan, syllabus, and worksheets/practices. A case-study also is also used to describe curriculum adjustments at the subject level, and/or at the main and basic competence level of each subject, the implementation of internship,. the certification process, and the development of student entrepreneurship (NAPS and DGPSE 2017).

The variables of this study included a) the suitability of agriculture vs curriculum of the sector of agribusiness/agrotechnology, the skill competency of APHP needed by the world of work

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and b) the collaboration of VS with the world of work in an effort to improve the competence of educators and VS graduates. The indicators for curriculum suitability/synchronization included 1) suitability in the type of competency and depth of competency level based on level II Indonesian national work competency standards scheme, 2) learning (lesson planning, implementation of learning process, and assessment of learning outcomes).

The population in this research included all VS of Agricultural Product Processing Agribusiness skill competency in Indonesia. As for the sample VS in this study, only 4 (four) were located in one city and three districts. The sampling technique used purposive sampling. The sample school consists of PP Tanjungsari-Sumedang State VS; Temanggung 2 State VS; 5 Jember 5 State VS; PP Banjarbaru-Banjarmasin State VS; and Pekanbaru Integrated State VS. The research respondents included the principals (vice principals) of public relations (PR), vice principals of curriculum, productive teachers (subject group of vocational specialization), internship advisers, and internship instructors/advisers in the world of work.

These research data were in the form of secondary data collected through the desk study (document study) method from various sources both in the form of internal/external documents of the business/industry (the world of work), relevant laws and regulations, reports on study results, education statistics especially for agriculture VS and literature study. The results of data analysis were verified in 4 (four) districts and 1 (one) city according to the number of research samples. This verification was carried out by means of a focused group discussion.

Data analysis employed quantitative and qualitative descriptive method. Quantitative data were made in the form of a percentage to see how many Agriculture VS have curriculum that are synchronized with the competency requirements in the world of work. Qualitative data were analyzed by means of inventorying, grouping data, classifying, and drawing conclusions.

FINDINGS AND DISCUSSION

Suitability of curriculum. The suitability of 2013 curriculum (K-13+ of agriculture VS, skill competency of agricultural product processing agribusiness shows that the adoption of Level II Indonesia National Qualification Framework (INQF) scheme in 2013 Curriculum reveals that (a) 17 units of General/Core competency and 13 units of optional competency contained in Level II Indonesian National Work Competency Standards Scheme on Agricultural Product Processing Agribusiness Skill Competency have been adopted into the curriculum used in the learning of Agricultural Product Processing Agribusiness; (b) The adoption of thirty units of general/core and optional competencies is spread across various CC-BC from each of C2 group subjects (Basic Skills Program), and C3 group subjects (Skill Competency); (c) It is unnecessary to add CC-BC, especially new subjects, in the Curriculum structure of APHP, as the competencies needed by the world of work as contained in the Level II Indonesian National Work Competency Standards Scheme (agricultural product processing agribusiness skill competency) have been adopted into the curriculum. Thus, in the context of conformity, the curriculum used in agricultural product processing agribusiness skill competency is in accordance with the needs of the world of work; (d) competency units in the indonesian

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national work competency standards schemes that have been adopted into the curriculum have also been included in the lesson plan, syllabus, and worksheets/practices. Up to the level of planning and implementation of learning has also referred to the Indonesian National work competency standards scheme, which means that it is in accordance with the needs of the worlg of work; (e). in terms of curriculum implementation, almost all sample schools cannot implement (apply) the learning of all CC-BC contained in the curriculum.

This happened especially in CC-BC structure of skill learning (CC-4) related to the processing of hardwood commodities (coconut, palm oil, rubber); then in the subject of Production and Processing of Plantation and Herbal Commodities. This is because there is no industry/factory that processes the commodities produced by these plants in the area or region around the sample school location. As a result, schools do not have work partners (bussines and industry) to support internship.

Furthermore, some CC-BC are no longer in line with the demands of DU/DI in terms of (1) Depth, Description of CC-CC skills (CC-4) that direct students to show tubers, fresh fruit and vegetables for production units (the subject of Production of Processing Vegetable Products) is considered to be lacking. In this case students should also be directed to have the skills to analyze, make criteria, apply and evaluate the condition/ quality of commodities of agricultural products; (2) Lack of face-to-face meeting hours; The number of face-to-face meeting for C2 subject groups (Basic Skills Program) which is only allocated 12 hours per week in total (@ 45 minutes) is deemed insufficient for students to master the competencies, both for preparation for internship and the first time working in a company. This is because in the early days of internship and if later they work, students/graduates will not practice directly in the production/processing section, but begin with the practice of material handling in the form of observation/ inspection of material quality, while observing the production/ processing of materials.

In addition, (a) mastery of competencies in terms of food security (e.g. HACCP/Hazard Analysis Critical Control Point, and ISO 22000 and its derivatives) needs to be added more deeply. The world of work stated that the demands of consumers (markets) now have “surpassed” the industry’s capabilities, where they want practicality but still prioritize security in using/consuming products; (b) the ability of students and graduates to work in the laboratory, such as calibration techniques and the use of material quality testing equipment, is still very lacking. Many students may have already understood the use of simple tools, but for modern equipment, they are not familiar and still have a lot to learn. The latest developments in the production process at the world of work have increasingly taken advantage of technological advances, especially in information technology (IT) sector. It can be said that all work systems in the world of work have been computerized, even laboratory equipment used by the world of work generally has used computer/digital technology; (c) understanding of manufacturing management from upstream to downstream is now increasingly becoming a demand for HR at bussines/industry. In the context of suitability, it can be said that the curriculum used in APHP is in accordance with the needs of the world of work (NAPS and DGPSE 2017).

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From the mapping results, it can be concluded that in the framework of the synchronization of the Curriculum with the needs of the world of work for Agricultural Product Processing agribusiness skill competency, it is unnecessary to add new CC-BC, especially new subjects, because the competencies needed by the world of work as contained in the level II Indonesian national work competency standards scheme for agricultural product processing agribusiness have been adopted into the curriculum. However, tha problem is the overall implementation of learning in VS.

In the curriculum structure, it was found that almost all sample schools could not implement (apply) learning for all CC-BC as a whole as contained in the curriculum. This occured on the subject of Production and Processing of Plantation and Herbal Commodities. In the KI-BC structure of the subject, the CC-BC associated with skill competency learning (CC-4) processing hardwood commodities (coconut, palm oil, rubber) cannot be implemented. This is because there is not any industries around the sample school location which processes these commodities. Therefore, the schools cannot implement them due to inavailability of DU/DI as a supporting partner for learning implementation, both for basic practice learning and for students' internship.

Although no addition of CC-BC is necessary in the curriculum structure, this study found that several CC-BC whose depth or description and hours of face-to-face meeting had an impact on graduate competence are no longer in line with the demands of the world of work. Referring to the description of CC-BC on the subject of Production of Processing Vegetable Products related to knowledge (CC-3) about identification of tubers, fresh fruit and vegetables for production units, students are only directed to have a skill competency (CC-4) capable of showing tubers, fresh fruit and vegetables for the production unit. It is still considered incomplete when they are only required to show them. Supposedly, in this case, the description of CC-BC explicitly states that students have the competency to analyze, make criteria, apply, and evaluate the condition/quality of commodities of tubers, fruits and vegetables.

According to the world of work, to avoid or minimize the risk of errors in the production process, they argued that demands of consumers (markets) have now "surpassed" industrial capabilities, where they want practicality but still prioritize security in using/consuming products. Based on these recent conditions, the world of work stated that mastery of competencies in terms of food security needs to be added more deeply. Related to this, according to recent developments faced by the world of work, current knowledge of performance standards which are currently used/referred to by the world of work such as Hazard Analysis Critical Control Point (HACCP) and ISO 22000 and its derivatives for various types of food must be introduced and taught to students.

In addition to the hardskills as mentioned above, students also need to be given a number of soft skills in accordance with the current demands at the world of work. Understanding of manufacturing management from upstream to downstream is now increasingly becoming a demand for HR at the world of work. The impact of the advancements (leaps) of current

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information technology has resulted in the world of work having to be managed by increasingly lean HR organizations on one hand, but on the other hand, each HR individual is also required to at least understand other competencies related to his/her must-master basic/main competencies. This condition will be apparent in the world of work which belongs to the VS scale, where the company's operations are handled by limited human resources. Thus, each is demanded not only to master the competencies of his/her specialty, but also other related competencies needed to run the company's operations smoothly. In addition, other soft skills in terms of communication (including the mastery of English or other foreign languages) and leadership (responsibility, time discipline, and toughness/persistence in working) also need to be taught, because graduates also have the opportunity to pursue career to be the leader in the company.

The results of the study found out that the adoption of thirty units of general/core and optional competencies is spread across various CC-BC from each of C2 group subjects (Basic Skills Program), and C3 group subjects (Skills Competency). Thus, this mapping concluded that the Curriculum of Agricultural Vocational Schools of Agricultural Product Processing Agribusiness refers to the level II Indonesian National Work Competency Standards scheme established jointly by the National Agency for Professional Standars and Directorate General of Primary and Secondary Education in Agricultural Product Processing Agribusiness Skill Competency.

Curriculum Synchronization Mechanism. Formally, this study did not find a pattern of curriculum synchronization mechanisms that have been carried out by VS with the world of work. However, informally the curriculum synchronization has been carried out by each sample school by empowering alumni who work at their partner institutions (the world of work. Alumni contributions spread across various companies at local, national, to multinational scales, and/or even those who are successful in entrepreneurship strongly support the quality of VS graduates. In these cases, alumni association does not only play a role in synchronizing the curriculum, but also contribute to the management and development of the school. The forms of contributions from alumni association include facilitating industry visits, student internship, productive teacher internship programs, guest teachers, and scholarships (Temanggung 1 State VS).

Synchronization of curriculum with the world of work is carried out 2 times a year, approaching the new academic year and ahead of the final semester test. In this context, the world of work is requested to submit up-to-date competencies they need. The mechanism carried out by the school is sending the format to the world of work to be filled in with regard to those up-to-date competencies. Then, discussions are held with stakeholders. The results of synchronization are used as materials for curriculum development. In addition to synchronization, curriculum synchronization is also carried out during the monitoring and evaluation (monev) of internship withthe world of work. The results of the monitoring and evaluation are used as input for feedback on curriculum development and in the end as an enrichment material for students before doing internship.

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CONCLUSION

First, curriculum and its implementation (Formulating lesson plan, Syllabus, and learning process) on Agricultural Product Processing Agribusiness Skill Competency. skill competency is in accordance with Level II Indonesian National Work Competency Standards Scheme, which has jointly been ratified by BNSP and Director General of Primary and Secondary Education in November 2017 (NAPS and DGPSE 2017).

Second, in the synchronization of Agriculture Vocational School curriculum skill competency based on the competency needs of the world of work, no additonal subjects or even main and basic competences units in the curriculum is needed. However, several findings show that: (a) Knowledge material (main competence-3) in the subject of Food Safety, Storage and Warehousing, specifically related to food safety standards, is no longer in line with the demands faced bythe world of work; (b) depth of skill competency taught in main competence-4 on the subject of Production of Processing Vegetable Products, in this case the competency shows the freshness of various agricultural commodities as raw materials for production, is no longer in line with the demands ofthe world of work. The skills demanded by the world of work today are not just to show, but also to be able to evaluate, make criteria, and classify the level of freshness of raw materials; (c) Lack of face-to-face meeting for learning in all subjects of the group Basic Skills Program (C2), and (d) Soft skills of VS graduates in terms of communication and leadership are generally weak.

Third, not all vocational schools of agriculture vocational school curriculum skill competency produce graduates who have competencies that are in line with the needs of the world of work. This is partly due to (a) lack of learning facilities and infrastructure, especially for practical learning; (b) limitations of teachers, in this case productive teachers in the C3 group subjects, both in number and competence; (c) difficulties in obtaining DU/DI partners, especially for Vocational Schools whose skill competencies have not been recently operated, and (e) not all sample Vocational Schools have competency test sites that are licensed as LSP-P1 from National Agency for Professional Standars (NAPS).

Fourth, curriculum synchronization is carried out by involvingthe world of work, School committees, and alumni association, which is carried out during the activities of (1) Synchronization; ahead of the up-grade class and new academic year, and (2) monitoring and evaluation together with the world of work on the internship program.

Fifth, sample schools have provided sufficient portion of study hours for entrepreneurial material. For schools that already have teaching factory activities, they create an internship program for students who are interested in learning entrepreneurship at the school's teaching factory.

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Subijanto plays a major contributor of the research in which to design research, performed research. Subijanto also involves in the data analyses helped by Darmawan Sumantri, Ika Asri Dwi Martini, Tatik Soraida, and Idris HM Noor. All authors wrote the paper, proofread, and approved the final manuscript.

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