PARTNERSHIP MODEL OF VOCATIONAL EDUCATION WITH THE BUSINESS SECTOR IN CIVIL ENGINEERING EXPERTISE PROGRAM OF VOCATIONAL SECONDARY SCHOOLS

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Abstract

This study aims to: (1) develop a partnership model of vocational education with business sectors in civil engineering expertise program of vocational secondary schools in Bali and (2)testing the effectiveness and efficiency of partnership model developed. The study used the design and development model of Richey & Klein (2009), which consists of three main phases, namely the phase of model development, model validation, and model testing. The phase of model development used the qualitative approach, through literature review, observation and interview. Expert review techniques were used in the model validation phase. The model testing used pre-experimental design with one-shot case study. The study found that the partnership model of vocational education with the business sector in civil engineering expertise program of vocational secondary schools in Bali involves several components, such as key stakeholders, the underlying principle of partnership, orientation/common goal, the management of educational resources (teachers and facilities), curriculum development, implementation of learning/training and work practices, competency test of graduates, distribution of learning outcomes/output, as well as monitoring, evaluation and feedback of partnership program. Experimental results show that the partnership model developed has met all of the criteria (effective, practical and efficient).

Keywords: partnership model, vocational education, business sector, civil engineering expertise

INTRODUCTION

Vocational education in secondary vocational schools (SMK) is one type of formal education aims to prepare students to be prospective workers who are ready to compete in the job market. Vocational education seeks to prepare graduates become educated, trained and skilled personnel in the specific area of competence/expertise. Therefore, vocational education should be geared by the needs of the job market (Hamid, Aribowo, & Desmira, 2017).

Partnership/cooperation between education and business sector is necessary, because the school system (vocational education) and economic systems (world of work) is actually dependent on each other. On the other word, the link and match between the vocational school and employers must be the basic principle in the management of vocational education (Djojonegoro, 1998, p. 58).

Cooperation between vocational education with the workforce face the challenges, including Indonesia, caused by low level of capacities and capabilities of partners; administrative barriers, financial and cultural; partnerships are considered troublesome; as well as the fragility of the foundations of a partnership built (Lannert, Munbodh, & Verma, 1999; TVET Colleges Technical Task Team, 2014; UNESCO, 2013). These findings are supported by data from observation of several vocational schools in Bali. There are still some problems related to the management of vocational secondary education programs, as follows: (1) SMK managers and companies/ industries are still difficult to internalize mutual benefits through collaboration/ partnership; (2) the term dual system (PSG) connoted is limited to industrial/practical work practices only; (3) the teacher's training programs is generally only implemented by the education office with the aim of consolidating the implementation of new curriculum without involving the business world; (6) certificate of competence result of skill competency test (UKK) does not apply in work world, which required by graduates is skill certificate of professional certification issued by authorized institution (BNSP / LPJK).

This study aims to find a partnership model of vocational education with the world of business in accordance applied to civil engineering program at SMK and (2) to know the effectiveness and efficiency of partnership model of vocational education with the business world at SMK civil engineering expertise program.

The terms of partnership comes from the business sector, which is a composition of several partners that combine their expertise and commitment to manage the business jointly, including in the distribution of risk, profit and loss (Draxler, 2008). Economic Forum (Buckup, 2012) defines partnership as an alliance of voluntary between the various actors from different sectors, in which they agree/are committed together to achieve common goals or meet specific needs by sharing risks, responsibilities, tools and competence (investment resources) to produce a purpose/ specific products. Commitments in these alliances can be formal (written agreement) or informal (verbal agreements), which is based on trust, equality and understanding of the obligation (Piyasiri, Suraweera, & Edirisooriya, 2008). Partnership in this case implies a relationship based on a shared commitment to achieve the same goal with the principle of equality and mutual sharing.

Torres & Margolin (2003) states that, there are no standard procedures or rules binding form of cooperation that should be applied. Nevertheless, there is one thing that needs to be understood, that the collaborative process in partnership involves changing patterns of business than usual. The different types of partnerships are implemented will involve the collaboration of different levels as well, depending on the desired objectives and readiness to change the pattern of its business partners. The diversity of the notion of such partnerships due to collaborative arrangements that tend to be dynamic and constantly evolving, so it is mentioned that the partnership/collaboration as a journey and not as an end (Gajda, 2004, p. 69 and Horton, Prain, & Thiele, 2009, p. 79).

Partnership can be seen as an array of work that gradually through a sequence of logical and sequential, which is an early development stage (seed and beginning/ initiation), execution/implementation and assessment of accountability and decision next direction (closing or renewal) (Long & Arnold in Torjman 1998, p. 3; Frank & Smith, 2000, p. 25). On the seed phase, partners explore the

idea/conceptualization of the project in general (determination of the vision, mission and objectives of cooperation), then proceed to the stage of initiation including regulatory draft of program work, negotiating labor agreements and securing funding. At an early development stage, each partner also made the understanding of the situation, the establishment of joint commitment and considering the implications of the program. Furthermore, at the stage of implementation/ execution, carried out action planning, resource management, definition of roles and responsibilities each partner, as well as capacity building. In the final stage, each partners evaluate partnership program as a basis for determining the direction of further decisions, regarding the repair, renewal and termination of partnerships.

If we review the partnership program to be implemented in the education sector, Hands (2005) states that a partnership between the school and the community is principally based on the effort to fulfill the three aspects, namely the needs of students, the achievement of school programs and community expectations. The partnership between the school and the community contains seven stages, as shown in Figure 1. The seven stages of the partnership cycle by Hands does not have to be passed entirely step-by-step, but can be skipped according to conditions during the course of the interaction cooperation.
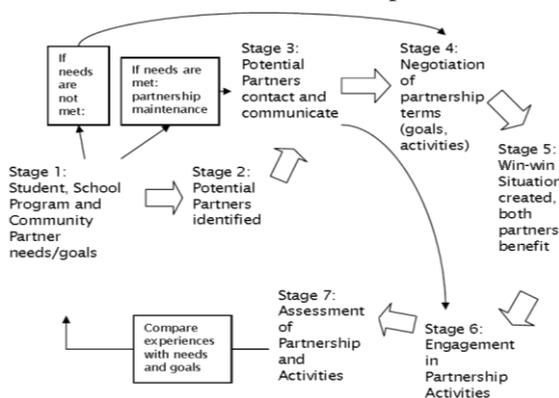

Figure 1. Cycle of Partnership Process (Hands, 2005, p. 70)

If the partnership process which will be implemented for the first time followed, then all the stages to be traversed. However, if the partnership program has been ongoing and the evaluation stage it is still a purpose of each partner are not achieved, then the next step to be followed is the negotiation element of the

new partnership and continued at a later stage. Whereas, if the objectives of all partners has been reached, then the maintenance of relationships in partnership with maintaining communication and direct partnerships stages in the implementation of cooperation activities.

During the partnership process, the management needs to perform monitoring and oversight of each process/stages of the program, as well as at the end of the program carried out a thorough evaluation. It aims to optimize the achievement of the benefits and minimize the challenges that may occur, including in the planning and implementation of educational partnerships. Marriott & Goyder (2009) states that the monitoring and evaluation of partnership programs conducted education ranging from pre-partnership, early stage/start building partnerships, beginning the partnership process, during its implementation, to the activities of the final evaluation to review the partnership and transition to sustainability partnership. One approach used by management for multi-sector partnership is the evaluation of orientation on long-term results, as shown in Figure 2.
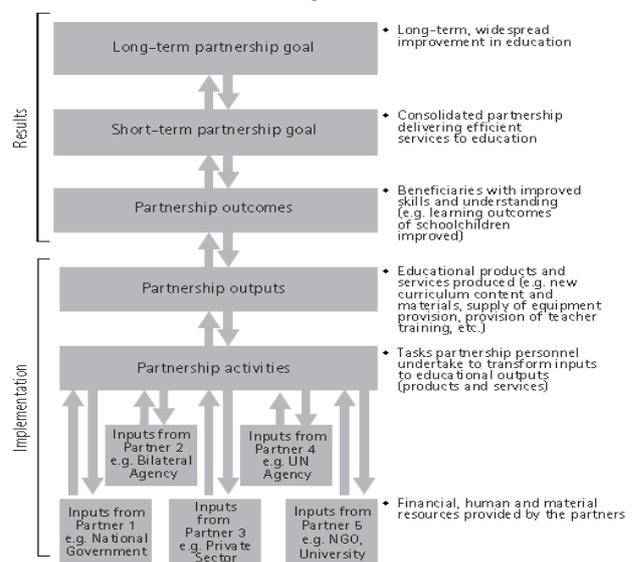

Figure 2. Results Chain of Multi-Stakeholder Partnerships in Education (Marriott & Goyder, 2009, p. 21)

Based on the Figure 2, the partnership program is implemented can involve multiple sectors (public, private and non-profit) to obtain support resources (human, financial, material/equipment) education to achieve long-term goals such as improving the quality

of education in general. Efforts to achieve these objectives done gradually with consistency in maintaining the continuity of the partnership process to improve educational products (compliance with standard 8 education) toward short-term goals (effectiveness and efficiency of educational services) until finally arriving at long-term goals.

Partnership in education services, including vocational education, can be coordinated at the level of the system (the education system and labor market including macro level) to the realization of cooperation between educational institutions with industry partners (institutional level). In addition, the relationship between the world of education and the business world can take place in the process of individual learning (school-based and work-based learning) which basically should be able to connect the learning needs with appropriate learning environment (micro level), including for learning abstract done in classrooms, practice learning is done in the laboratory, learning work environment through the provision of production facilities and the real work of learning can only take place in the workplace.

At every level and inter-level coordination will require connectivity and transformation (Stenstrom & Tynjala, 2009), as shown in Figure 3. Connectivity is a concept of bringing something previously done separately (the learning process), while the transformation shows the necessary changes or occurred during the applicable connection (Tynjala, 2009). Connectivity is made to make relationships/connections between the different elements (the situation, context and learning systems) become closer.

Therefore, the role of all stakeholders need to be optimized to unify the vision/mission in partnership to support the implementation of education, ranging from the national level to the operational level in school (Cassidy, 2007, p. 23). The partnership program is expected to be established between all stakeholders such as shown in Figure 4. Stakeholders have their respective roles in every aspect of the provision of education, ranging from the formulation of the knowledge, skills and social aims and competency standards and national education curriculum development to achieve social objectives and the national economy (education planning),

support in preparing educational resources for learning/training, professional development of teachers, managerial capability and leadership of school administrators, to the monitoring, performance assessment and evaluation of educational outcomes. Given such an important role of stakeholders, the education providers should be able to empower their role optimally.
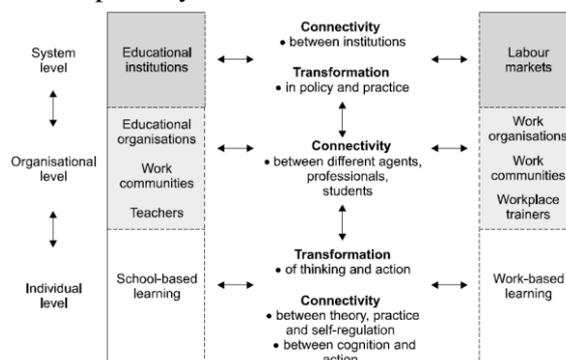

Figure 3. Connectivity and Transformation between Elements of Learning (Stenström & Tynjala, 2009: 4)

Transformation is necessary to anticipate the changes and developments that occurred during the process of connecting the two elements so that learning can take place as expected.

The United States Agency for International Development (2008) mentions that although both sectors have different backgrounds, but the partnership between business/industry and vocational education can take place in the form of a very broad ranging from the partnership program for commercial affairs to form an informal meeting. Some examples of partnership activities Companies with vocational education, including training needs analysis (individual entrepreneurs or sectoral level), planning and policy development of human resources in the company, charting skills/profile positions, curriculum development and assessment/ certification of competency-based learning plan, sharing the experience of the practitioner/employers, monitoring and evaluation of training programs, development coach working practices, industry placement for trainers and learners, sharing equipment or facilities practice, training in situations of real work, searches graduates, information exchange labor electronically and development of labor market information system.
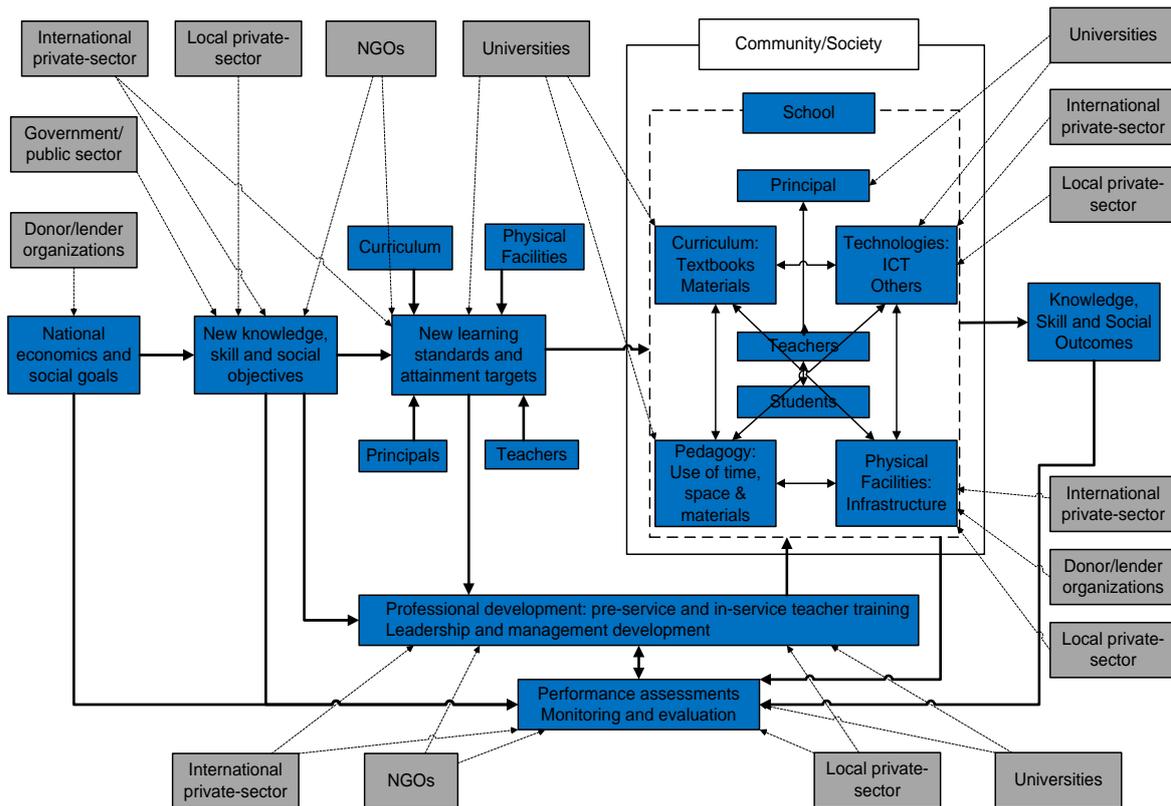
Figure 4. Multi-Stakeholder Partnerships Model in Education System
(Cassidy, 2007)

RESEACRH METHOD

This study used a qualitative approach to design and development research (DDR) by Richey and Klein (2009). This modeling study using multiple data collection techniques adapted to the purpose of each stage of the study consists of three phases, namely the phase of model development, model validation, and model testing.

This study was conducted from November 2014 to December 2015. The study was conducted in five vocational school in Bali that offer courses in civil engineering. There are SMK Negeri 1 Susut-Bangli, SMK Negeri 3 Tabanan, SMK Negeri 3 Singaraja-Buleleng, and SMK Negeri 1 Denpasar and SMK Rekayasa Denpasar.

The subjects were principals, vice-principals, heads of competency skills, coordinator prakerin, teacher productive, education service districts/cities, supervisors SMK, employers in construction services, local officials association of employers in construction services, regional board professional associa-

tions in construction services, regional/provincial of LPJK administrators and Regional Chamber of Commerce board.

Model found through development carried out in three phases, namely model development and model validation, and ends with limited model use/testing. The model development phase using techniques of literature study, in-depth interviews, observation and documentation. Interviews were conducted to the management of the school/civil engineering program of vocational secondary school in Bali and the company to work with, namely leaders and implementing partnership programs daily from both sides. Analysis of the results in the literature to produce a conceptual model/theoretical, and interviews, observation and documentation of the field resulted in existing models. Then, the existing models compared to the conceptual model and analyzed to find draft model developed. The draft model has been developed and then validated by the technical assessment by an expert (expert review) as an internal validation and acceptance testing models by prac-

titioners in the field as an external validation. Based on the input provided by experts, improvements were made to the draft models to gain a hypothetical model. Hypothetical model was then tested in limited use in the field. Trial design uses a form of pre-experimental design, which is kind of a one-shot case study. Improvements to the hypothetical model based on trials produce the final model.

Data collection techniques used: (1) the study of literature, (2) semi-structured in-depth interviews (in-depth interviews) directly (face-to-face); (3) direct observation of the partnership, both at school and in the workplace; and (4) the documentation; (5) expert revie). In addition to the five techniques of data collection, also supported by survey / questionnaires and focus group discussions (FGD).

Analysis of the results of interviews conducted by using generate hypotheses or by Tesch in Gall, Gall & Borg (2003, p. 453) as interpretational analysis. Data analyzed procedure according to the Miles & Huberman (1994, pp. 10–12), the grouping of data, data reduction, display data and draw conclusions. Analysis of the results of the expert review conducted in the narrative-descriptive. Data analysis techniques trial results using descriptive analysis of the results of observation, monitoring and evaluation of partnership activities, as well as the results of a questionnaire assessment of effectiveness, practicality and efficiency of the model.

FINDING AND DISCUSSION

Conceptually, the partnership model is built on the opinion of Long & Arnold and Frank & Smith, equipped with the opinion of the Marriott & Goyder. According to Long & Arnold in Torjman (1998, p. 3) and Frank & Smith (2000, p. 25), partnership is an arrangement of the work stages and follows a logical sequence and sequential, starting from an early development stage (seed and initiation), execution/implementation, and ending with the accountability assessment/ evaluation and determining the next direction. Meanwhile, Marriott & Goyder (2009) emphasizes the importance of monitoring and evaluation of partnership programs conducted education ranging from pre-partnership, early stage/start building partnerships, beginning the partner-

ship process, during its implementation, to the activities of the final evaluation to review the partnership and transition to sustainability partnership. This is consistent with the concept of governance of a program, from planning, implementation, checking and determining feedback and follow-up program.

At the seed stage, exploration of the idea/conceptualization of the project in general (determination of the vision, mission and objectives of cooperation), followed by the initiation phase which includes the determination of the stakeholders involved, setting the draft work program and negotiating agreements. At an early development stage is also identified the context of the situation, the establishment of joint commitment and consider the implications of the program, including the definition of roles and responsibilities of each partner, as well as the determination of the team monitoring the partnership program.

In the implementation phase of the partnership, do capacity building for the implementation of various activities of the partnership and resource management. The activities of partnership-related educational programs are taken from slices opinion of Prosser & Quigley, Cassidy, and The United States Agency for International Development. Vocational education will be efficient if trainees are trained specifically in the habit of manipulating and thinking required in carrying out real work (competency based), training instructor is an expert in the field who are taught by successful experience in applying the skills and knowledge in the world of work, training is given on the condition of the actual work and not just training or pseudo work (work-based or real work practice), training materials taught obtained from an expert or expert practitioners in the field of the work, not a scholar of the theoretical (curriculum development), and the costs incurred for vocational education should be at least sufficient for the needs of training with good quality (Prosser & Quigley, 1950).

In the conceptual model, the activities of the partnership between the business community with vocational education is determined, among other training needs analysis (development of competency standards and curriculum), planning and implementation of learning, assessment/ certification of compe-

tency-based, industry placement for trainers and learners, sharing equipment or facility practice, training in real work situations, and exchange of information manpower/labor market information system development. At the final stage of the partnership, the partnership program evaluation as a basis for decision-making further direction, where the partnership will be continued/do the renewal or the termination of partnership.

Based on interviews, observation, and documentation in the field, it was found that vocational education partnerships with the business world that continues to this day still dominant limited to the implementation *prakerin* and UKK. In addition, there are some schools that develop additional competence beyond the established nationally. For the provision of education, cooperation with the business world is incidental. *Prakerin* and UKK form of execution, as well as the type of curriculum, written, between the schools that the other schools there is little difference. Some schools have a production unit, generally only offer services through an order, such as carpentry workshop which offers services sills or furniture.

Some improvements related to partnerships between SMK-DU/DI on existing maudels when compared to the conceptual model include some aspects, as follows. First, vocational education partnerships with the business world can be applied if there is an expectation/shared vision to be achieved by each of the parties that partner. That vision is a slice of the expectations of the school, the desire on the part of employers and the demands of the regulations in the construction services sector in the form of labor certification. Second, in order to achieve a common goal, and ensure the commitment of each partner will be maintained, then the need for the principles held together. Third, after the discovery of the existence of a common vision, and agreed on the basic principles of partnership, then need to be designed a strategy to achieve it. In order to ensure qualifications and skills that are taught/trained they are relevant and appropriate to the needs of the real (Evans, 2014, p. 6), the integration of competency standards in the curriculum of national education standards of competence national work force in the world of work becomes a necessity. Fourth, in order to

implement these strategies, governance mechanisms need clear and commonly understood. Who should be involved, when involved, what the roles and responsibilities of each (who does what), and other management aspects. It requires connectivity and transformation during the process/stages of collaboration/partnership lasted. Moreover, the significance of monitoring and who will undertake it needs to be communicated and agreed upon. Fifth, the development of vocational education programs to maximize the mastery of competencies and work experience of vocational graduates, need to be given opportunities their part-time employment. Sixth, considering the needs or demands of the world of work, particularly in the field of construction service business, that vocational graduates must also have a certificate in the form of certificates of skilled professions (SKT), then the partnership model should also contain the program implementation.

Based on these considerations, the proposed draft model of vocational education partnerships with the business community developed. Draft partnership model consists of several components, among other key stakeholders, the underlying principle of partnership, orientation/objectives agreed on in the partnership, the implementation of the partnership (covering aspects of resource management, education programs, and the absorption output vocational education), maunitoring, and evaluation and follow-up program partnerships. Resources development include human resource development activities and infrastructure of education. Vocational education programs that can be woven through partnership activities include curriculum development, new admissions and career guidance, learning and training, industry work practices and part-time employment opportunities for students, as well as competency tests. The component of output absorption include the form of professional certification for graduates that will work, and graduate placement. Draft model developed then validated by experts and vocational education and brought together in the form of focus group discussion / FGD. The results of the expert assessment ranged from quite good to excellent range, as shown in Table 1.

Table 1. Summary of Expert Review

Criteria	The mean	Specification
Readability	2,83	Quite clear/easy
Credible	3	Clear/easy
Objective	2,83	Quite clear/easy
Practical	3	Clear/easy
Efficient	3,11	Clear/easy

Vocational education experts provide an assessment that the partnership model of vocational education with the business world which have developed feasible. Nonetheless, there are some inputs are given, among others, (1) the developed model is still too wide in scope, so it will be difficult to know the effectiveness in research time is relatively short, so it needs to be focused on the components of the most essential (as related to production units/UP/learning practices, industry practices/PI, competency testing, certification); (2) the principles of partnership there must be/appear in the model as an inspiration/basic model development; (3) development of partnership initiatives assumed to be from the school; (4) the impact of the partnership may be competence, goods/ services production/practices, certificates, and so on.

The draft model developed not only judged by experts of vocational education, but also validated by practitioners of vocational education. The practitioners came from elements of schools, associations of companies, Kadinda Bali, and Construction Services Development Board. Recapitulation of vote valles by practitioners are summarized in Table 2.

Table 2. Summary of Model Validation by Vocational Education Practitioners on Construction Services Sector

Criteria	The mean	Specification
Readability	3,64	Clear/easy
Credible	3,36	Clear/easy
Objective	3,61	Clear/easy
Practical	3,29	Clear/easy
Efficient	3,44	Clear/easy

The vocational education practitioners provide an assessment that the partnership model of vocational education with the business world which have developed feasible. Nonetheless, there are some inputs are given,

among others, (1) step approach can be traversed to reach an agreement is the assessment, presentation, and negotiation repetitive (not all stakeholders can accept the proposed cooperation/partnership delivered in a meeting); (2) it should be emphasized that the real certification of skills and expertise, according to the Law on construction services as well as derivatives regulation, instructs that the certificate is individual (one per person), so expect the workforce who have completed formal education, directly following the process of certification of labor if it would plunge in the world of construction services (not taken care of by the school); (3) the model should be able to cope with the curriculum guidelines of the government were very rigid, so difficult to adjust with the industry very quickly, and anticipate AEC and AFTA in 2015, competencies and certification should refer to globalization. Thus, the role of the association is not only a national level, but also the Asia-Pacific, making it clear competence in Asia Pacific also can be adopted and the resulting certification is the internationally recognized (certified).

Based on input from experts and practitioners from the validation results mentioned above, it is the model of this partnership will be focused on the partnership program with the most essential, which involves the development of the resources of education providers, facility development (infrastructure) education/training, curriculum development according needs of the workforce and local excellence, the implementation of learning/ training work in the workshop/ production units, testing of competence skills, professional certification for graduates, as well as the absorption of the product/service production and graduates of vocational education. Repair the draft model were tested on a limited basis in the field. The model tested using one-shot case study of pre-experimental study. Researchers create something stimulants such situations (treatment) were deliberately held in the object observed. Treatments such as the implementation model of vocational education partnerships with the business world.

In general, the observation, monitoring and evaluation of test models indicate that the role and Industrial Relations Society (HIM) in school is very significant in the partnership because they are given the responsibility for

communication and coordination with various stakeholders. The monitoring team stated that the partnership has begun to focus, but the commitment of the partners are still at the leadership level, so that the merger is still gray, in terms of working together to share ideas, resources, and influence. Opinions still vary owned stakeholders towards the achievement of common goals in a comprehensive understanding. Decision-making has been implemented in an accountable and responsive. However, the form of the implementation of the cooperation until now has not come to the issue of cooperation projects, only limited education. Not all participants are invited to be present at each meeting on a regular basis, are still limited to interest/purpose of each. Feedback has been carried out, usually at the end of cooperation. Model tested also assessed the effectiveness and efficiency of implementation. Assessment is done through questionnaires effectiveness and efficiency. Data recapitulation of the effectiveness and efficiency are shown in Figure 5, Figure 6, and Figure 7.
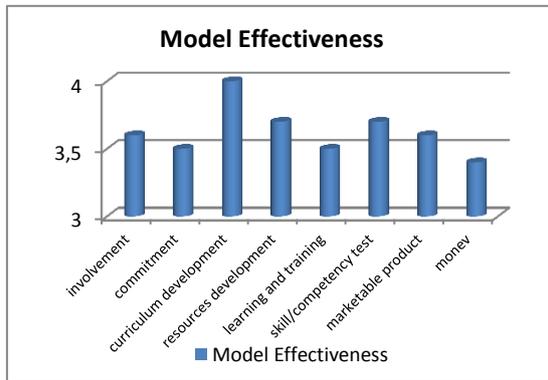

Figure 5. Data Recapitulation on Partnership Model Effectiveness Assessment
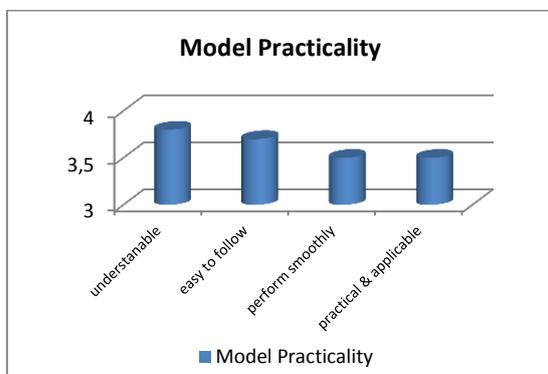

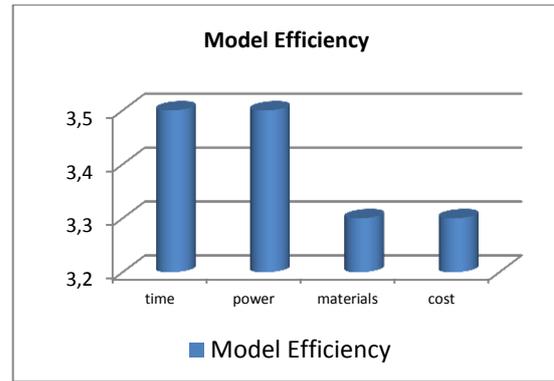Figure 6. Data Recapitulation on Partnership Model Practicality Assessment

Figure 7. Data Recapitulation on Partnership Model Efficiency Assessment

Based on the results of the assessment, it can be stated that the model developed has met the criteria of an effective, practical and efficient. Thus, the model of vocational education partnerships with the business world in the civil engineering expertise is worthy to be disseminated. The model has been tested and to get feedback later revised and produce products/models end. The final model of partnerships between vocational education with the business world as shown in Figure 8.

The partnership model as shown in Figure 8 involves several components, such as key stakeholders, the underlying principle of partnership, orientation/objectives agreed on in the partnership, the implementation of the partnership (covering aspects of resource management, education programs, and the absorption output vocational education), monitoring, evaluation and follow-up as well as the partnership program. Program implementation of resource management in partnership, include human resources development activities of the organizers (teachers and staff) and educational infra-structure. Vocational education programs that can be woven through partnership activities include curriculum development, learning and training (including industrial working practices and employment opportunities for part-time students), as well as assessment and competency tests. Marketing of SMK output, a partnership made in our marketing efforts result/products and services in production units, professional certification for graduates that will work, and graduate placement. The main component of vocational education in partnership with the business world is described as follows.
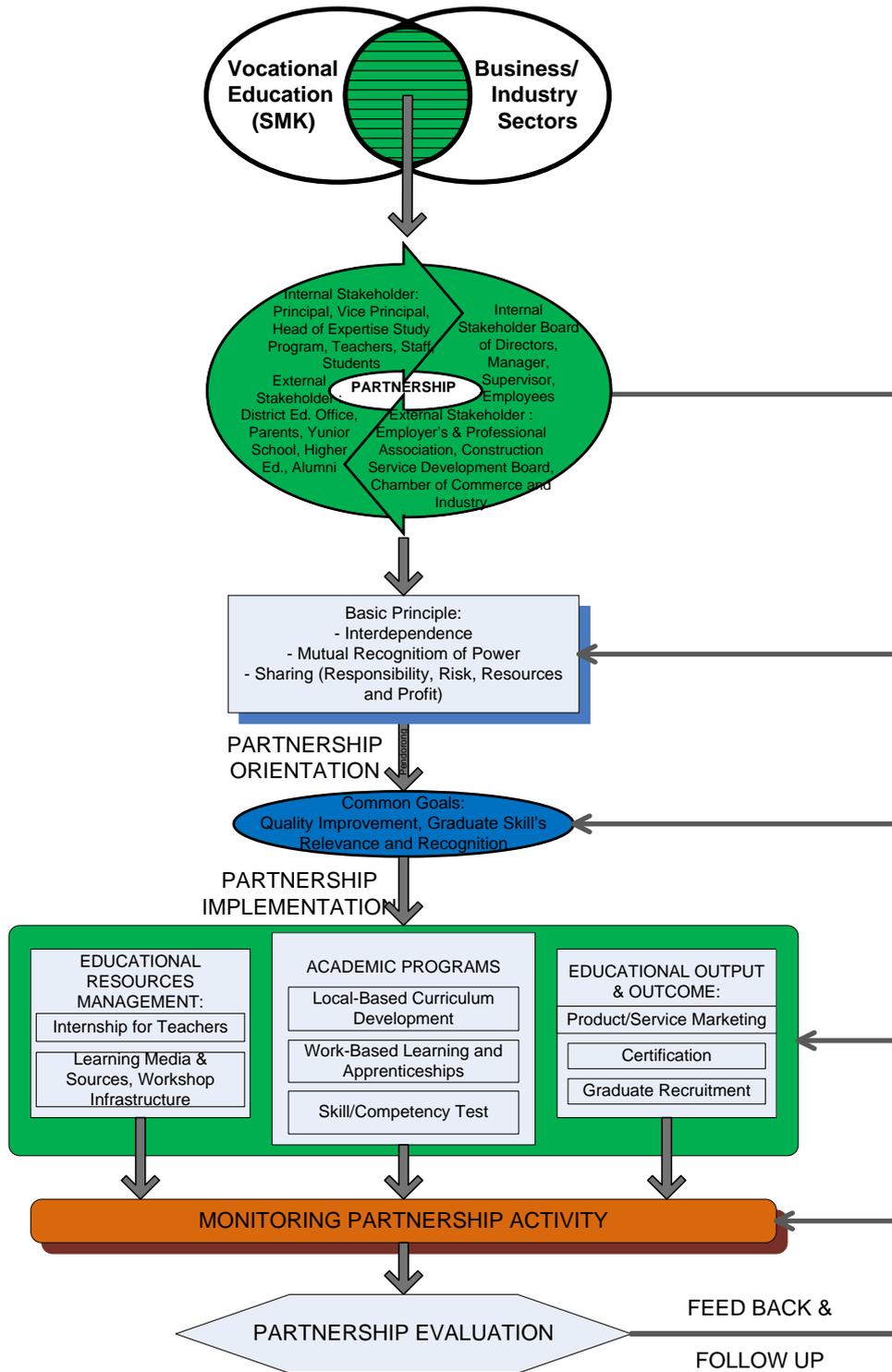
Figure 8. Final Model of Partnership between Vocational Education with Business World

Stakeholders in Partnership Model

As for the various parties involved in vocational education partnership program with the business world, particularly on the course for civil engineering expertise can be described in matrix form as shown in Table 3.

Principles of Partnership

In an effort to establish cooperation through partnerships, the school as the initiator must always be proactive in conducting assessments and negotiations with various stakeholders. Approach (assessment and

negotiation) was conducted by the school through the management of industrial and school's public relations staff. Partnership achieved if the parties will work together to have a common vision as a goal, as well as holding the principle of mutually recognized between the partners. The principle of partnerships such interdependence, mutually recognize their respective powers, and share resources. The principle of interdependence shows that each of the parties/partners depend on each other, the school needed a place that is able to provide real work experience for the students, the business world requires competent workers with certain qualifications. A relationship of interdependence will form a bond that is mutually beneficial to each other are woven through partnerships. The principle of mutual recognition of power (power) each is a manifestation of an attitude of tolerance and mutual understanding between the partners. Each party/partner has power/influence and significance of each, so that communication needs to establish a common understanding of the roles and responsibilities of each. The principle of sharing shows a willingness of each party to share knowledge/ experience, resources and risks in achieving objectives/ mutual benefit.

Table 3. Stakeholders in Partnership between Vocational Education with the Business World of Civil Engineering Expertise Program

	Vocational School	Business Sector
Internal	- Principal - Vice principal - Head of Expertise Study Program - Teachers - Staff - Students	Contractor/Consultan: - Board of Director - President Director - Manager - Supervisor - Staff
External	- Department of Education - Parents - Yunior School - Higher Education - Training Center - Alumni	- Clients - Suplayer of Materials - Employer's Association - Profesional Association - Construction Service Development Board

Local-Based Curriculum Development

Curriculum development that can be implemented at the school level is the devel-

opment of local curriculum. Local curriculum development steps as shown in Figure 9.
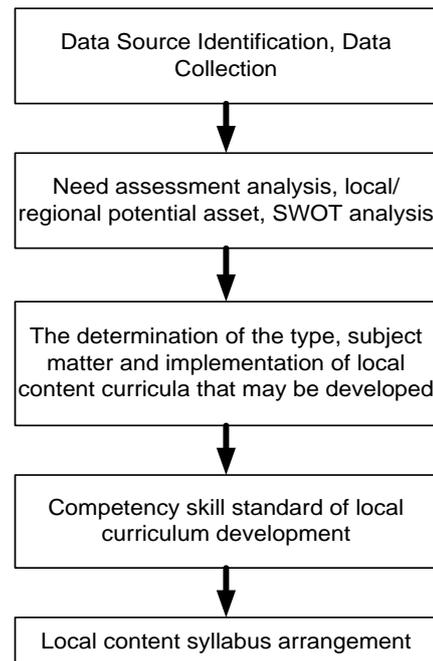

Figure 9. Curriculum Development through Partnership

Resources Management

Aspects of the resources management described in this model are the human resources and infrastructure of education. Human resources as a crucial component in education is the teacher/educator. A teacher can play a role as a communicator, facilitator, and mentor/tutor. However, a teacher is not the only source of learning, because teachers are not entirely be mastered technical skills in specific areas of expertise. Therefore, teachers should be able to facilitate learners to acquire knowledge, skills and values from other learning resources, including the employer in accordance expertise learner program. To be able to carry out this role, every educator should always conduct self-development.

Kinds of self-development which can be done through vocational education partnerships with the business world is an intern teacher to industry. This is a form of work-based learning experiences (work based learning) for teachers. The purpose of this program is to improve the implementation of the competence of teachers, especially for their professional competence. Externship program provides a greater opportunity to obtain the consent of the employer to be able to parti-

cipate in the provision of learning experiences/real training for students. In addition, teachers are also easier to select media and determine the appropriate learning resources to achieve mastery of competencies for learners. Facilities that do require a huge investment cost of the procurement can be planned its procurement and utilization together with entrepreneurs along with the close partnership between schools and the business world.

Learning / Training Program Development

Learning at a vocational school aims to develop the capacity required learners to enter the workforce, or for career preparation. Thus, the learning process should seek every learner can master the competencies required in the workplace. In accordance with the results of intern teachers as described in sub-chapter resource management education, the teacher who had an internship at the company will be more easily carry out the work-based learning (WBL). These activities include guest speakers from DU/DI, a field visit to the project (site visit), shadowing the work (job shadowing) in the company, and apprenticeship students / internship. Selection of the type of activities that will be implemented WBL adjust to the demands of basic competencies to be achieved. The process in the WBL can be done using scientific approach (learning through the process of observing, ask, gather information, associates/analyzing, and communicating what is already found in the activities of the analysis). Stages in the planning and implementation of the learning process with a scientific approach to the WBL as shown by the chart in Figure 10.

Assessment and Competency Test

Learning outcomes assessment conducted by educators conducted continuously to monitor the process and achievement of competencies, learning progress and improvement of learning outcomes of students. To be able to assess the competency as a whole, which includes aspects of knowledge (knowledge), skills (skills) and attitude (attitude), can be performed using authentic assessment approaches. Authentic assessment is an assessment conducted fully and comprehensively to assess the start of the input (input), process, and outcomes (outputs) of learning. In accordance with the planning of the learning process in the previous subsection, the aspect of learning input assessed characteristics/early ability learners, media (infrastructure) learning to use, support instructor at company/industry. Components of the learning process is assessed by the teacher is the interaction between learners, between learners with media sources and learning is done through observation. Rate output of learning is assessment of the results of the report (both oral / presentation, or in writing).

Besides implemented by educators, the assessment carried out by the industry instructors, learners (self-assessment), as well as the education unit, in the form of final exams and school tests. Assessment is carried out at the time of final exams generally assess dominant realm of knowledge of students. To vote in the realm of skills, educators and mentors/instructors industry can make an assessment of the portfolio. In addition, there is an attitude assessment through observation and journals by educators and industry mentors, as well as self-assessment (learners). For assessment at the time of school exams, especially for the competency test students' skills, the school should invite external examiners are derived from elements of associate companies or professional associations, especially those who have qualified as an assessor in the association.

Learning Output Management

The product of the learning process is the entrepreneurial local content of goods/ services and competent human resources. Goods and services produced can be absorbed by the community / industry through direct personal effort by learners who produce it, or facilitated by institution / school through the sale (such as exhibitions) as well as the production unit. Meanwhile, students who rated competent by employers when following the process of training and work practices will be easier to get a job offer, even before they pass through part-time work programs.
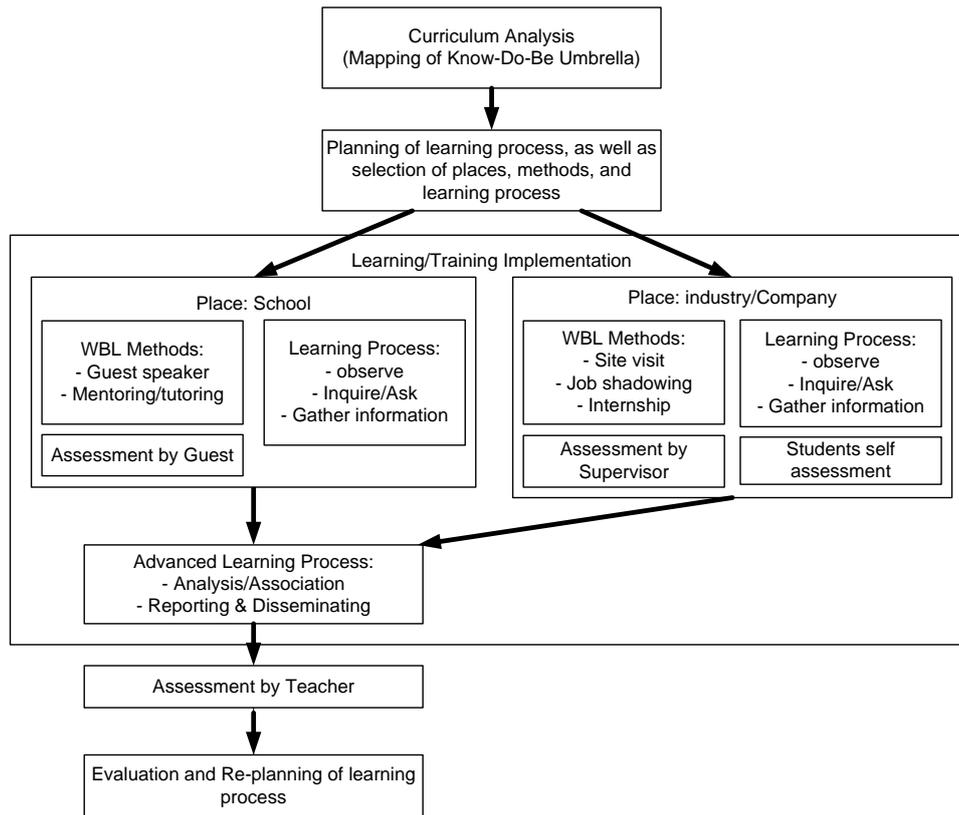
Figure 10. Learning/Training Implementation through Partnership

Monitoring and Evaluation of Partnership

To make sure all the programs implemented as planned, there should be periodic monitoring and evaluation. Monitoring is done to record any activity undertaken partnership and as an overall program evaluation. Meanwhile, the evaluation was conducted as a basis for follow-up programs are implemented. After that, the follow-up of the partnership determined in order to repair and improve the quality of the partnership, so that the sustainability of the partnership program can be guaranteed.

CONCLUSION

Based on the description of the results, we can conclude the following: (1) Model partnerships vocational education with business appropriate to apply to the civil engineering program of SMK in Bali is a model that involves all key stakeholders by holding the basic principles of partnership to achieve goals together. The implementation of the partnership include aspects of management of educational resources (intern teachers to the industry and the development of infrastructure), implementation of educational programs (development of local curriculum, implementation of learning / training and work practices, and assessment / competency test), and the absorption of the output of vocational education (marketing results/products and services in production units, professional certification for graduates, and graduate placement). In the partnership model also emphasizes the importance of monitoring and evaluation and follow-up program partnerships. (2) Based on the assessment of the effectiveness and efficiency of the model at the time of the trial, it can be concluded that the model developed has met the criteria of an effective, practical, and efficient. Criteria effectively demonstrated by the involvement of all key stakeholders, a high commitment to the principles of partnership, the success of developing local curriculum, the development of effective resources, implementation of learning and working practices are optimized, the implementation of the UKK, capable of producing products/services that are appropriate and salable in market, and monitoring

and evaluation done consistently. Practical criteria shows the model is easy to understand, easy to follow and can be implemented smoothly, as well as practical and applicable. Efficient criteria include efficient use of time, energy, materials / facilities, and costs.

For further work, the study of the partnership model is expected to cover the entire course of expertise contained in the school and carried out in a larger area with the subject for more research, and done in a longer time and depth to evaluate the success of the partnership program.

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