

Developing the Competencies of Prospective Vocational Teachers through the Implementation of Trans-National Teacher Education Program Model

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Abstract— *The rapid development of Vocational Schools)) in Indonesia influence the role and readiness of Educational Institution of Educational Personnel (Lembaga Pendidikan Tenaga Kependidikan (LPTK)), especially Technology and Vocational Education (Pendidikan Teknologi dan Kejuruan (PTK)), as a producer of prospective professional vocational teachers. LPTK-PTK needs to developed a Teacher Education Program Model that meets the regulatory demands related to vocational teacher education program. A vocational teacher education program model that can meet the expectation is through Trans-National Teacher Education (Pendidikan Guru Trans-Nasional (PGTN)) program. Long-term goal of this research is to develop prospective vocational teachers' competencies through the implementation of of Trans-National Teacher Education program model. The targets that are expected to be achieved in the first year research is emphasizing the development of the implementation of PGTN model. The approach of this study is research and development, conducted in two steps. The result of the first step is PGTN program model, which include: students' recruitment system; Studying pattern; and Studying process. Students' recruitment system applies cooperations, in order to accommodate the needs on the field. Studying pattern applies "sandwich system" between campus and home regions. Studying process applies terminal system through the implementation of full days SKS system.*

Keywords— *prospective vocational teachers, trans-national, teacher education program*

I. INTRODUCTION

Changes and development of Science and Technology as well as the global dynamics that are so fast demand every educational institution of educational personnel (LPTK) to be able to adjust themselves. LPTK, who manages and produces prospective technology and vocational educators, must seek to make changes and developments in order to improve the quantity and quality of their graduates' competency standards. The real challenge faced by LPTK-PTK is the impact of the realization of the mandate of *UU No. 20 of 2003 about National Education System*, particularly the Article 50 Paragraph 3, which states that central government and/or regional government organize(s) one educational unit at all levels of education to be developed into an educational unit with international standards. In addition, the development and

management of current education are conducted in line with the era of regional autonomy. Schools are in the management and responsibility of regional leaders (regent/mayor), both in the procurement of infrastructure and the appointment of members. The subsequent challenges by LPTK-PTK are: (1) Vocational School consists of 9 (nine) areas of expertise, with 46 programs of skills, and 128 competencies of skills (spectrum of skills of vocational secondary education). (2) Developmental target of Vocational Schools to project its graduates in creating employment (entrepreneurship) is 20%, getting jobs domestically is 50%, getting jobs abroad is 10% and continuing to colleges is 10%. Based on the above explanation, Indonesian LPTK-PTK must have a right program formulation in order to produce prospective teachers that are capable in facing all these challenges. The program formulation that is in accordance with the policy of the development of vocational and secondary education is through the development of PGTN program.

PGTN Program prepares the students based on PP.19/2005, which requires the educators to possess academic qualification (D-IV or S-1) and competencies as teaching agents including pedagogical, personality, social and professional competencies. PGTN Program consists of classes with students coming from numerous regions in Indonesia, and it is expected that the graduates have nationalist spirit and competitiveness on international level. The development of PGTN program is also intended to anticipate the impact of the realization of the mandate of UU No. 20/2003 about National Education System, specifically the Article 50 Paragraph 3. Besides, this developmental program is based on the construction of new school unit (USB). Until late 2015, 12.648 vocational school units have been built.

Around the world, the implementation of Competency Based Teacher Education (CBTE) has been growing since late 1960s and early 1970s. This kind of educational paradigm is based on psychology and behavioristic learning theory, all-behaviors school of thought, which focuses on behavioral changes that are completely measurable. CBTE concept is also partially rooted in cognitive social learning theory that emphasizes the formation of behaviors based on the imitation principle. Generally, training or educational programs that are

based on the concept of CBTE show four main characteristics, these are [1]: (1) organizing what will be learned into components that are not interconnected, (2) specific and careful formulation about what will be learned, (3) providing feedback during learning, and (4) inserting performance model into learning sequence.

An example of researches on teacher educational program, that is, a research conducted by [2] investigated the quality of teachers when teaching in New York City using the preparation of the teachers as the measurement, by examining the different ways. Their findings showed differences in quality among teachers who were prepared in different ways, even though it is not clear whether these differences were caused by preparation and support or by individual characteristics that entered the profession though different paths. Meanwhile an evaluation test on teacher education program at Glassboro State College (New Jersey) conducted by [3] used 19 pre-service teachers as subjects. CIPP evaluation model was adopted for the research. The test administrated on the students was Minnesota Teacher Attitude Inventory (MTAI) and National Teacher Test, including both Weighted Common Examination Test (WCET) and Test at Area on each of three main areas of study from which the students were drawn. The evidence from this longitudinal study showed that the scores of MTAI from the first year to mid junior year increased, with the average for this group relatively fell when the students were measured when teaching. The results of achievement analysis using WCET scores showed that there was not any change in students' academic achievements. Four possible explanation were proposed for the lack of significant differences during four years of research on WCET. Another research was done by [4] about "teachers involving students: the results of in-service teacher education program to improve parents' involvement."

The characteristics of graduates' competency standards expected from this PGTN program development are elaborated on the programs that allow four teacher competencies (pedagogical, personality, social and professional) to be achieved. Specifically for vocational teacher on the mastery of professional competency, they are required to be one level above vocational school graduates [5]. Professional competency must be standardized with the certification of Profession Certification Institution (LSP), so that the teachers' mastery of competency standards/certification from the program is really tested. The characteristics of graduates' competency standards expected to be achieved through this program include: (1) Having healthy physique; (2) Having healthy spiritual mentality; (3) Having Indonesian nationalist spirit; (4) Having four standardized teacher competencies with the advantage of high work ethic, the ability on foreign language (English) and the use of ICT (Information and Communication Technology). Considering the characteristics of the PGTN program development, the formulation of the problem is "How to develop the competencies of prospective vocational through the implementation of the PGTN program model?"

II. METHODS

The approach used in this study is Research and Development (R&D), while the steps of the research and development model is described on this figure (Figure 1).

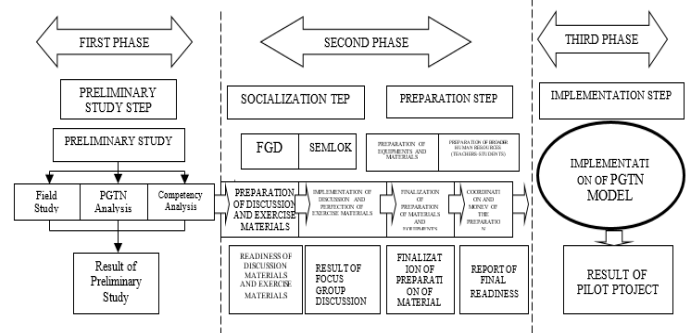


Fig. 1. Steps of the Research and Development of PGTN Program Model

III. RESULT AND DISCUSSION

The form of Trans-National Teacher Education/Pendidikan Guru Trans-Nasional (PGTN) is formulated in the following chart (Figure 2 and Figure 3).

MODEL PROGRAM PENDIDIKAN GURU TRANS-NASIONAL

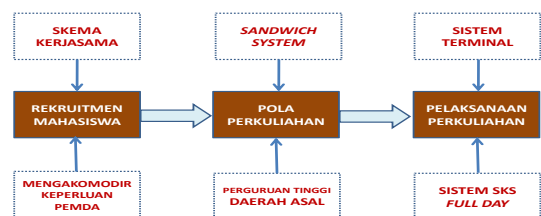


Fig. 2. Form of PGTN Program Model

RANCANGAN WAKTU PELAKSANAAN PERKULIAHAN SELAMA 4 TAHUN KALENDER AKADEMIK POLA SANDWICH SYSTEM									
TERMIN									
1	2	3	4	5	6	7	8	9	10
TEMPAT KULIAH									
Kampus/ Perguruan Tinggi	Kampus/ Perguruan Tinggi	Sekolah di daerah masing-masing	Kampus/ Perguruan Tinggi	Kampus/ Perguruan Tinggi	Sekolah di daerah masing-masing	Kampus/ Perguruan Tinggi	Industri/ Pesaan	Sekolah/Diklat	Kampus/ Perguruan Tinggi
KEGIATAN MAHASISWA									
Kuliah di Kampus 20-21 SKS	Kuliah di Kampus 20-21 SKS	Observasi sekolah secara umum. Menempati 67 mata kuliah dengan memfasilitasi ICT (14 SKS)	Kuliah di Kampus 20-21 SKS	Kuliah di Kampus 20-21 SKS	Observasi, analisis, latihan dan proses pembelajaran di sekolah. Menempati 54 mata kuliah dengan memfasilitasi ICT (12 SKS)	Kuliah di Kampus 20-21 SKS	Mengaplikasikan manajemen industri dan praktik kerja industri	Menikuti tugas akhir (4 SKS)	Mengaplikasikan proses, produk dan di sekolah dan melakukan pengkaderan (4 SKS) dan pendirian pendirian skripsi
Catatan:									
1. Satu termin (selama 4,5 bulan) berisi 16 pertemuan = UTS & UAS.									
2. Jumlah keseluruhan waktu: ((10 x 4,5) + 3) bulan									
3. Tiga bulan tambahan disediakan untuk mahasiswa yang tidak dapat menyelesaikan perkuliahan tepat pada waktunya									

Fig. 3. Form of implementation of PGTN program model

A. Recruitment of Students

The recruitment system of prospective students in this model uses cooperation scheme (Figure 4). This is done in order to obtain the best youths from the regions that will send their student to be educated into vocational teachers based on the field of expertise needed by each regional government. In determining the criteria of prospective participants, in addition to academic field and physical health that become the basis in determining the graduation of the prospective students, the regional government must also establish and explain the standards of “learning motivation and readiness to complete the study on time” to the prospective students who will be sent. This is very important to emphasize because the learning pattern of learning group in this model will be different from regular students’ learning group.

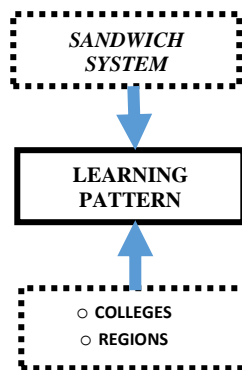


Fig. 4. Form recruitment of students

Learning group in this model may consist of the students from one particular province (consisting of several regencies/cities) or consist of several province. In recruiting, the faculties (department/study program) cooperate with Direktorat Kerjasama dan Usaha (DKU). Through this cooperation scheme, quota planning of the needs of vocational teachers on productive field (Subject group C) that is needed by the regional governments can be accommodated.

B. Learning pattern

The characteristics of graduates’ competency standards expected from the development of PGTN programs are elaborated on the programs that allow four teacher competencies (pedagogical, personality, social and professional) to be achieved. Specifically for vocational teachers on the mastery of professional competency, they are required to be one level above vocational school graduates [5]. Professional competency must be standardized with the certification of LSP, so that teachers’ mastery of competency standards/certification from the program is really tested.

The characteristics of graduates’ competency standards expected to be achieved through this program include: (1) Having healthy physique; (2) Having healthy spiritual mentality; (3) Having Indonesian nationalist spirit; (4) Having four standardized teacher competencies with the advantage of high work ethic, the ability on foreign language (English) and the use of ICT (Information and Communication Technology). On this model (Figure 5), it can be seen that there is people’s

hope that expects to be professional teachers who are bachelors, who are also the needs of the governments and the society. One must completely master the characteristics of Vocational Education based on one’s field. This certainly will color the characteristics of the curriculum of Technology and Vocational Teacher Education. The curriculum must be able to develop the four competencies of prospective teachers, namely pedagogical, personality, social and professional which can be achieved in an integrated manner. Another integration is also described in a requirement that demands prospective teachers to master both the concepts (theories) and practices where the skills must be combined with the educational concepts in basic learning subjects and pedagogical profession. In addition, the prospective teachers must have practical competencies suitable for industrial standards. The graduates will have main competencies as teachers to work at schools and trainings, as well as supporting competencies to work in land industry. With learning pattern at campus, at schools/vocational schools in original regions, and in industry, the students are challenged to think critically and systematically on the field of technology and vocational education. When the students are in their original regions, the role of associated officials and parents in supervising the students is extremely dominant.

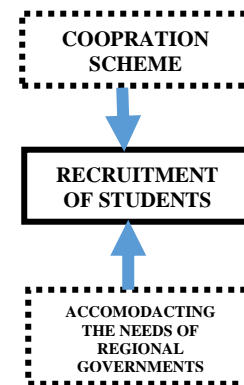


Fig. 5. Form of Learning Pattern

Meanwhile the program of academic guidance is expected to be able to help all the students to complete their educational program in a high quality manner and on time. Therefore, the role of custom becomes highly important. The pattern of custody begins with the grouping of the placement of the students’ place of living, which is based on the environmental conditions, but some students from a study program are concentrated in particular areas around the campus. This is intended to make it easier for the academic guiding lecturer to come to the dormitory of the students, so that the relationship and intimacy tie between custodian lecturers and students will be nurtured professional.

C. Studying Process

The description of the design of the implementation of PGTN program is designed with term pattern (1 term = 4.5 months). In this pattern, there are 16 meetings in each semester, including UTS, UAS, one week for test and one week for rest/recreation/industrial visit. Thus, S-1 program can

be implemented only in 10 terms + 3 (three) months or equal with a deadline of 4 (four) years. This includes KKN, Industrial Practice/Academic Training Program (Program Latihan Akademik (PLA)) and Field Experience Program (Pengalaman Lapangan (PPL)), with each of these activities is conducted in full term and can be held in their respective regions.

During their stay on campus, program participants will be equipped with English skill through English day and English-based learning, which will ultimately lead to the possession of international TOEFL/TOEIC certificate. Consequently, the program participants can complete their education on time with standardized capabilities ranging from the mastery of the four pillars of educators' competence as well as English skill, using ICT and not having to leave their original regions in a relatively long time. The more detailed design of this term pattern is as follows:

- One terms (for 4.5 months) contains 16 meeting + UTS and UAS.
- Three additional months are allocated for the students who cannot complete the learning on time.

Moreover, in this pattern, there must be associated institutions that must support the feasibility of this program, for example, Vocational High School and relevant partner industries.

Good relationship must be woven with Partner Vocational Schools, because Vocational School is an inseparable part of technology and vocational education program, with the mindset of prospective PTK teachers have to be very familiar with Vocational Schools, just like prospective doctors have to be very familiar with the health center or hospital. Partner Vocational School is not only a place for PPL and basic exploration of other professions, but should also be used as laboratory for technology and vocational education, that can provide complete experience to become standardized vocational technology teachers. Vocational Schools that become partners are the schools located in the original regions of the prospective teachers, and the schools around LPTK-PTK who status are (formerly) RSBI/SBI or at least independent.

Prospective vocational teachers can not be separated from industrial world, thus, they must be involved in the industry starting from just reviewing to internships/Industrial Practice/PLA. It is also to support teachers' competencies. The other important things in this process is the pattern of recruitment and academic guidance. The recruitment of prospective students is conducted through cooperation with regional governments of cities throughout Indonesia, where the regional governments send their best youths with learning task/scholarships pattern.

IV. CONCLUSION

The research conducted in the first year had produced the model of Trans-National Teacher Education (PGTN) Program for prospective vocational teachers who will guide vocational subjects. For the condition of the Unitary State of the Republic of Indonesia (NKRI), this model is promising. This is because the PGTN model has the following characteristics:

- The recruitment system of prospective students applies pattern approach of cooperation with regional governments.
- Learning pattern applies "sandwich system," that is, it is held at campus (Organizing Colleges) and at partner Vocational Schools of the Regional Governments from where the students come.
- The Implementation PGTN program is designed with term pattern (1 term = 4.5 months). Learning process on campus includes: face-to-face meeting, structured assignments, and independent learning scheduled in the classroom, so that the daily learning can be held for about eight effective hours. Thus, the form of learning process in this model applies full day system.

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