

Post study pre-service practical training programme for TVET teacher students

Abstract

The quality of teachers determines the quality of education in general and occupational competence specifically. There is an urgent need to establish programmes that improve the professionalism of teachers. One such programme is the post-study pre-service training for prospective TVET teachers (PTP). This programme can be implemented for graduates of TVET teacher training programmes upon completion of their university course and constitutes a post-study education and training programme. It is implemented during the transition period, before prospective teachers go on to actually practice teaching as qualified teachers in vocational schools. This study will explore a variety of aspects related to vocational teacher training in Indonesia, Vietnam, China, and compared them to methods implemented already in Germany. Of these aspects to come under scrutiny are the basic conditions, the outcome of existing teacher training programmes, PTP concepts, and the PTP outcomes anticipated. With regard to Indonesia PTP is still in the planning stage, however, in other countries it is already in the implementation stage. Collaboration by stakeholders of the pre-service training for prospective TVET teachers is also to be discussed in this paper. The empirical research in the field coupled with content analysis from a body of written document sources has resulted in various conclusions. This indicates the need for a variety of steps to be taken to improve some aspects of PTP implementation.

1 Introduction

1.1 Problem statement

The era of globalization, in which national boundaries within various sectors barely exist any longer, confronts all nations with a dichotomous phenomena in the labour market. On the one hand globalization generates a wider occupational spectrum providing individuals with broader opportunities for choosing employment. On the other hand, however, it boosts fierce competition in the very acquiring of those job opportunities. What this means for the job seeker, is that he or she must be equipped with far better qualifications to cope with this competition. Moreover, qualifications already obtained have to be updated, in a sense of its line with the demand of the labour market. In terms of educational politics, this poses a big challenge in establishing an education system that can meet the needs of the labour market, and cope with the rapid development of technology and work organization.

Technical and vocational education and training (TVET) is among the sectors of education that provides answers to the above mentioned challenges. In many developing countries TVET has become a prominent issue particularly for its importance in (1) preparing the young generation to enter working life and (2) responding to the indispensable demand of the devel-

opment process, which must provide the economy with a quality work force commensurate with the needs of the goods and services industries. As a result, the organization of vocational education - in a narrow sense - aims at developing the occupational capacity of its participants, comprising occupational, social and methodical competences. At the end of the day it is precisely those competences that constitute the employability of graduates.

One of the deciding factors in the development of occupational capacity in TVET is the availability of competent teachers. The TVET teacher plays an extremely crucial role in determining the quality of TVET outcomes. In this study, vocational education teachers are focused upon, with the emphasis on vocational education at upper secondary school level. Thus far according to reports by a number of formal bodies such as The World Bank and UNESCO-UNEVOC, we find VET teachers in developing countries, particularly those of the Southeast-Asian region, frequently do not meet the demands of the world of work. The teachers' poor pedagogical skills make the process of know-how transfer to the student far less effective. Hence, student learning largely boils down to a passive learning process, which does little to help in the development of professional competence. This is compounded by the teacher's lack of exposure to the latest developments industry thus the teacher's industrial knowledge and skills remain a critical weakness as well.

In many developing countries, such as Indonesia for instance, the condition is inherent to the university-based structure and/or model of TVET teachers' development. In the first instance the system does not require the student to have industrial experience either prior or upon entering the study programme or after graduation. During the study-process the amount of practical training in industry is more often than not quite negligible. The training is simply dominated by the intermediation of theories, of which many are long outdated due to the lack in research activities and poor programmes to continue and further the teacher-educators' professional development within the institution. The teacher candidates knowledge and skill deficit in up-to-date developments in the world of industry seems to be nothing less than inevitable. The logical question this weakness asks is just "how TVET participants' knowledge and skills can be updated if the capacity of their teachers is out of date?"

Given the key role of teacher quality in determining the quality of education in general and occupational competence specifically, there is an urgent need to establish programmes to improve the teacher's professionalism. One of the programmes in question is pre-service training for prospective TVET teachers (PTP). This programme can be implemented for graduates of TVET teacher training programmes upon completion of their university studies. The programme is a post-study education and training programme, implemented during the transition period, before prospective teachers proceed to carry out their duties at vocational schools independently.

This study will explore a number of aspects of vocational teacher training, especially those related to PTP, in Indonesia, Vietnam, China, and then compared it the model of it that exists in Germany. What will be scrutinised are the concepts, basic conditions and outcome of the existing teacher training programmes.

1.2 Specific objective of the study

The study intends to map the schemes of post-study pre-service practical training programmes (PTP) for TVET teachers in the countries in question. It has been undertaken in order to contribute to the development of pre-service practical training programmes for TVET teachers. The schemes analysed in the respective countries may be existing ones or ones still in development or at the planning stage.

The study will give an overview of the existing or planned concepts in Indonesia, Vietnam and China, as well as Germany, and draw up recommendations for the development and implementation of models of post-study pre-service practical training programs for TVET teachers in Indonesia and in Vietnam. Addressees of the recommendations will not only be the institutions responsible for providing the training, but also policy-makers of the countries involved. The stakeholders are free to use the project findings for setting up the legal and/or administrative framework for such programmes.

2 Methodology

2.1 Research approach

This field research was undertaken based on a qualitative method. This method was chosen for its exploratory character (see Flick 2002, 28). Qualitative methods are particularly suited to research subjects, that have not yet been greatly investigated (ibid). Qualitative methods can be applied to pilot studies and aim, among other things, to begin exploring the subject with the intention of preparing it for further study (see Mayring 2008, 21). In general, they are used for problem areas not yet adequately researched or used in areas where mostly descriptive studies are available (Bock 1992, 90).

The work was intended primarily to provide a descriptive representation on the issues and problems of the implementation of PTP in some of the partner countries involved in the Regional Cooperation Platform for Vocational Teacher Education in Asia (RCP). The objective of this work is to draw up a comparative description of strengths and weaknesses of the respective PTP concepts and their implementation based on defined analysis criteria (see 3.3.). According to the objective, the study does not try to measure the data's quantitative significance, but emphasizes its relevance and usefulness.

2.2 Data gathering method

Research is conducted based on a qualitative method. The method features three fundamental data collecting techniques: non-standard or semi-structured interviews, observations, and non-reactive method (Bortz & Döring 2002, 307). Two of the techniques are applied in the research, which are:

1. Content analysis. Content analysis was carried out by analysing existing documents and reports containing regulations, descriptions and research findings related to TVET teacher training programmes.
2. Interview. This method was used to obtain descriptive information from PTP stakeholders. The survey takes the form of semi-standardized, personal "face-to-face" and problem-centred interviews, organized both on an individual basis and in groups. For the individual interviews the guideline interview technique was used, whereas in group interviews, the group discussion technique was applied. Both interview methods were conducted according to developed guidelines.

2.3 Data sources

The data for this study was gathered from two main sources. The first source was literature, documents, reports, handbooks, and articles, containing various information on PTP, including the regulation, concepts, curriculum, models, up to the implementation and development of PTP. The sources provided an abundance of information to be analysed and provided a deal of insight into PTP implementations. Narrative information from PTP stakeholders formed the second source. Stakeholders are representatives of governments, training institutions or universities, vocational schools and companies. By interviewing them, results from the document analyses were confronted and compared with the subjective opinions. The data collected provides a comparative view on to what extent real implementation of the concepts and regulations of PTP in the field has taken place.

2.4 Analysis framework

Field research was carried out by the partners in the respective partner countries; among which are Indonesia, China, and Vietnam. The implementation of PTP in Germany was also taken into account, but was exclusively based on document analysis. This is due to the fact that the RCP P3 project was carried out by RCP member institutions from Indonesia, China and Vietnam who did not have the resources for field research in Germany. The results of field research conducted by the partners in the respective partner countries were bundled into country reports. After which the collected reports were comparatively analysed. Based on the common discourse conducted in a workshop discussion with all country partners, the following variables were determined to be the analysis criteria:

1. TVET philosophy
2. Objective of PTP
3. Policy and Regulation (including the financing aspect)
4. Curriculum Structure
5. Parties Involved in PTP
6. Assessment and Evaluation
7. Problem and Difficulties

Furthermore, the state of the art of PTP implementation in the countries was compared. In the comparison section as well as the conclusion and recommendation section the German model and concepts were chosen as a contrast sample as the PTP system in Germany is much further developed than in Asian countries.

3 Resume of PTP schemes in Indonesia, China and Vietnam

This section resumes the various practical training programmes for vocational teachers in Indonesia, Vietnam, China and Germany respectively. The description will elaborate on the systems in the respective countries; include the TVET education system, PTP system, the basic conditions of PTP program, curriculum, financing and implementation of PTP. In the next section, the variables of PTP in each country are compared and analysed.

3.1 PTP schemes in Indonesia

There is a number of types of practical training programmes for vocational teachers in Indonesia. PTP-1 is the practical training for vocational teacher candidates and is conducted during the last semester of the university-based vocational teacher education programme. This type of a practical training programme is called *Praktik Profesi Lapangan* (PPL). PTP 1 already has existed for several years in Indonesian vocational teacher education. PTP-2 is actually a practical training programme conducted for in-service teachers, known as *Program Pendidikan Guru Dalam Jabatan* (PPG Dalam Jabatan). PTP-3 is a teacher training programme in the form of a post-study pre-service practical training programme. PTP-3 is to be introduced as *PPG pra-jabatan* for future vocational education teachers. This concept has been implemented according to the Decree of the Minister of Education (*Permendiknas*) No. 8. Year 2009 regarding *Program PPG Pra-jabatan*. PTP-3 for vocational school teachers aims at enhancing the pedagogical skills and occupational skills of the future vocational teachers to improve the quality of professional teachers (Permendiknas 8/2009). According to the legal regulation (Act No. 14/2005), the teacher must be equipped with defined competences and possess the certificate as a professional teacher (UU 14/2005). Upon completion of either the PTP-2 or the PTP-3 programme, the participants will then be awarded the professional teacher certificate. PTP-2 is already implemented, whereas the PTP-3 is still in the planning stage.

Both PTP-2 and PTP3 require theoretical training in a university that hosts vocational teacher education (*Lembaga Pendidik Tenaga Kependidikan/LPTK*) and internships in vocational secondary high-schools (*Sekolah Menengah Kejuruan mitra*). The deepening of pedagogic theory at universities is implemented by using the workshop method, requiring the active participation of the participants in the learning process. During the internship part, participants develop their practical skills by being directly involved in the learning and teaching processes. In terms of the curriculum content, in both PTP1 and PTP-2 there is a balance between theory- and practice-orientation. The curriculum structure of the programmes is clearly defined in the manuals for professional teacher trainings (*Panduan Pendidikan Profesi*

Guru) published by the Directorate General of Higher Education (DIKTI 2010). However, implementation of the programmes in each LPTK can vary, depending on the availability of infrastructures, qualified lecturers, etc. Financing of the PTP-2 programme is provided by the government. Each year a certain budget is allocated for carrying out the programme. For the PTP-3 programme, however, there is no budget allocation as yet, forcing one to wonder if the participants are expected to bear the costs.

3.2 PTP Schemes in China

In the China country report of the project Li (2012) informed us that there exist two sets of programmes in China, at both the provincial and school level to support TVET teacher candidates and novice teachers in their professional development. In the article the two programmes are referred to as PTP programmes. The first PTP programme targets future teachers during their university/college periods and includes a 10-week internship that takes place in the last year of the study programme. The internship is a prerequisite for graduation, and is therefore necessary to become a teacher. Later the programme is referred to as PTP1. The second set of programmes aims at those who have already gained their degrees and have just begun their service in the vocational schools. This set includes a variety of programmes taking place during the first two years of the teacher's career, they include a probationary period of usually one year.

In terms of the curriculum content, both PTP1 and PTP-2 are strongly practice-oriented. There is no clearly defined structure of the curriculum of the programme and the participants learn mainly in an apprenticeship-style setting and on an observation-imitation basis. In terms of the participation rate, most teacher candidates and novice teachers take part in the PTP programmes. Aside from studying in the corresponding institution or being a school teacher, no special prerequisites exist for participating in the programmes. To finish the programme successfully one has to take part in the required programmes, write certain reports and accomplish a few other tasks, such as recorded a teaching session video, filling in forms, etc.

3.3 PTP Schemes in Viet Nam

Many different models of vocational teacher training curricula have been constructed and implemented with the common purpose aimed at creating occupational and pedagogical skills. Currently, there are five models of practical training programmes (2 programmes for occupational skill training, 2 programmes for pedagogical skill training, 1 programme for general practice). Aside from these 5 models that are compulsory and have already been implemented, three other models exist in the pilot phase. Compulsory programmes provide basic vocational or pedagogical skills, according to the national standard to ensure the teacher students, engineers or craftsmen are capable of implementing the tasks of a vocational teacher at a corresponding level. Pilot programmes focus on improving the occupational skills of some selected occupations to meet the national standard, the ASEAN regional standard or the international standard. In some international standard programmes, the capacity of vocational pedagogy is also taken into consideration.

The compulsory PTP models are the following:

- PTP1 occupational skill-training programme for students of universities and colleges of technical education.
- PTP-2 basic occupational skill-training programme for students of technology universities and colleges.
- PTP-3 vocational pedagogical training programme for students of technical education universities/colleges following the concurrent training scheme planning to become vocational teachers at vocational colleges and vocational secondary schools.
- PTP4 vocational pedagogical training programme aimed at skilled workers and artisans to become trainers.
- PTP5 probation programme for novice teachers at vocational colleges and vocational secondary schools.

Under the Scheme “Vocational training reform and development period 2011 – 2020”, the following PTP models are being piloted by the General Directorate for Vocational Training:

- PTP6 an occupational skill-training programme to standardize occupational practical skills at a national level for vocational teachers that graduated from technical education institutions, but have not yet met the national standards.
- PTP7 is an occupational skill-training programme to standardize occupational practical skills at national level for vocational teachers who graduated from other technology universities and colleges, but did not meet national standards.
- PTP8 is an occupational skill-training programme to standardize occupational skills at ASEAN regional or international levels for vocational teachers who teach key training occupations at regional and international levels.

Trainees participating in these programmes will be evaluated differently according to the different programmes. The popular way to assess compulsory programmes (except practical programmes) is for the trainees to be given scores after having taken a subject, and taking an exam at the end of the programme. Upon completion of the programme, trainees are then issued certificates that are valid nationwide. In pilot programmes, the evaluation will be based on occupational skill standards.

Aside from assessing the learning outcomes of trainees, assessment or evaluation of the implementation of the programmes has not been implemented. Hence, no official report on the advantages and disadvantages of the different programmes exists. Nonetheless, a few major problems are patently clear. Most significantly is the lack of qualified lecturers/trainers (in terms of both professional and pedagogical capacity) to implement these programmes. Furthermore, due to the large demand for these training programmes, the number of trainees is so enormous that facilities are not sufficient for practical training. The curricula are over-detailed and inflexible in terms of time and duration. Insufficient finance further adds to the difficulties encountered in putting the desired outcomes into effect.

4 Comparison

In accordance with the variables of the analysis framework, the following table represents parts of the comparison of PTP systems implemented in the countries taken from the analysis of the compiled reports of partner countries and the discussions in the workshop.

Table 1: **Comparison of PTP systems in the respective countries**

No.	VARIABLES	INDONESIA	CHINA	VIET NAM	GERMANY	GROUP REMARKS
1	TVET Philosophy	To prepare individuals who can contribute to the world of work and society, equipped with the knowledge, attitude and skill	To train labour force required by the labour market	To train a technical labour force in direct production and service, armed with the practical capabilities from their qualifications.	Holistic acting competence in the occupation (<i>Beruf</i>) – dual system as the predominant mode	Range from development of skilled labour, up to holistic educational objectives.
2	Objectives of PTP	General: to produce teacher candidates who have the ability to contribute to the objectives of National Education goals. Specific: to produce teacher candidates who have the necessary pedagogical and professional skills.	Getting practical skills, integration into the teacher service. Practice orientation: both programmes are designed to introduce the (potential) teachers to the world of work.	To produce TVET teachers, meet the standards of professional competence (professional knowledge and occupational skills) and vocational pedagogy competence.	Putt theory into practice. Introduce novice teacher to the teachers' community of practice. Conditioning of civil servants	Training of industry related skills, training of pedagogic competence
3	Policy & Regulation	Education law and general policy on education, teachers and lecturers. Regulation of Minister of Education 16/2005 on Qualification and Competence Education Standard. PTP2: Regulation from Minister of Education and Culture No. 5 /2012 on the <i>Program PLPG Dalam Jabatan</i> . PTP3: Regulation from MoE No. 8/2009 on <i>PPG pra-jabatan</i>	No clear policy at the national and provincial level.	Standards for TVET teachers. Pedagogical framework curriculum for TVET teachers at secondary and college training levels.	Slightly differing regulations in the 16 federal states. Emergency measures introduce deviating path	policy and / or regulations on national, state, province, district and school level
4	Curriculum Structure	Pedagogical Theory : 50%, Practical Theory : 50% (University : Theory & Workshop Method; Vocational Schools : (Teaching Practice)	No clearly defined structure at a provincial level. School-based: Observing, imitating, learning, with guidance from mentor	PTP 1: 70% theory, 30% practice PTP 2: 100% practice	Main seminar + 2 subject area seminars	Theoretical, practical programme

No.	VARIABLES	INDONESIA	CHINA	VIET NAM	GERMANY	GROUP REMARKS
5	Parties & Personnel involved	<p>PTP1: University & Vocational Schools.</p> <p>PTP2 and PTP3: - Ministry of Education (MoE) - Universities - Vocational Schools - Education Offices in district / provincial level PTP-2 participants are the in-service teachers. PTP-3 participants will be pre-service teachers.</p>	<p>PTP 1: University/College and vocational schools</p> <p>PTP 2: Provincial government, industry (selected companies), vocational schools</p>	<p>PTP 1: Teacher training institution (4 uni, 1 college, 6 uni with faculty for TVET, 1 College with Fac TVET, 25 voc. College with fac.TVET)</p>	<p>in the teacher seminar (government body but not equal to university) - Vocational schools</p>	<p>Government, vocational school, university.</p>
6	Assessment and Evaluation	<p>PTP2 and PTP3: - 30% score of workshop assessment - 40 % score from practical assessment - 30% score from competence assessment</p>	<p>Practice-oriented, multi-dimensional assessment. - Public lecture, real class teaching (video recording) - Public lecture, real class teaching (video recording)</p>	<p>Learning outcome assessment (full time participation, examination by end of each learning unit). - No external evaluation and programme accreditation.</p>	<p>Continuing guidance and counselling by the teacher seminar - Evaluation programme not systematically available</p>	<p>Assessment for individual/participant, evaluation for the program. For individual assessment:</p>
7	Problem and Difficulties	<p>PTP2: The quota of participants (in-service teachers) per year is set according to funding available from the government in each year. Thus number of vocational teachers participating is limited each year. PTP3: No information, since PTP has not been implemented yet.</p>	<p>PTP 1: a) Timing of the programme: conflict of time, internship, master degree preparation period) Intention of schools: Utilization of students as labour force, weak guidance and teaching. PTP 2: a) Administrative structure and impulsive decision making. Lack of pertinence/relevance of the training. b) Unbalance (more of the moral aspect)</p>	<p>PTP 1: Lack of qualified trainers. PTP 2: Lack of quantity and quality of equipment, insufficient finance, lack of qualified trainers.</p>	<p>Emergency measures for hiring of TVET teachers. Problems of corresponding science. Extremely long education + training time. PTP can tend to extinguish innovative drive. Whole process does not systematically provide occupational experience in the vocational discipline (but this is problematic only for a small number of teacher candidates).</p>	

Source: Kurnia et al. (2012)

5 Results

This section interprets comparative analysis results of the country reports and complements the analytical part of the study. Several aspects outlining weaknesses of PTP implementation in the partner countries are highlighted to provide a general insight into issues that should be improved or re-oriented. What is referred to in the German implementation cannot be fully implemented, but will furnish references to these results and recommendation.

5.1 Basic (mis-)conception of TVET

Vocational education systems in developing countries such as Indonesia and Vietnam still indicate a wide philosophical gap between their basic objectives as skill developers and the demand of the world of work where skills have to be operational and productive. In view of the fact that, among other things, vocational education explicitly aims to ensure access to continuing education, this can be thought of as both positive and negative.

The positive view posits the TVET system offers its participants the choice between two options for their future carrier, that is to say either entering the world of work straight away and cashing in on their working skills or continuing on into higher education. The negative view emphasizes on the one hand, the system does not put enough emphasis on developing work-skills, and on the other provides no guarantee the graduates' skills will be utilized in the economic sector. The second perspective appears more plausible than the first, given that the graduates of the particularly formal vocational schools in developing countries continue to be marginalized, in as much as their qualifications remain poorly recognized by society.

The integration of education continuation as the basic purpose of vocational education implies the curriculum must be so designed that vocational students are exposed to a broader range of learning content. The students have to be equipped with both working-skill and academic skills enabling them to compete with their peers from general schools, as they attempt to gain entry into higher education. Consequently, the learning capacity of the participants becomes overloaded. As witnessed by an example of vocational education in Indonesia, during 3 years education in vocational school, participants must accomplish a learning load of up to 5,800 hours. This is in excess of the work load required by a polytechnic student for the same 3 year period. At the end students tend to lose their learning focus in both domains and they neither master occupational competence nor the academic contents of the curriculum. Hence, many of them are becoming losers in this competition, both in the industry and higher education sector. TVET graduates have no significant participation rate in higher education. In the labour market, most experience no privileges, in the sense that they are employed in the same job position as their peers from general schools and despite the difference in working competences, earn the same payment.

5.2 General shortcomings of the current PTP concept

Implementing post study pre-service training programmes (PTP) for vocational teachers, to improve teacher professionalism, is one of the strategic steps to be taken to improve the situation of TVET outcome as the availability of qualified teachers is so decisive for the development of the competences of vocational education outcome. The content and mode of implementation and – it appears – the specific objective, however, differs from one country to the other.

There is a pronounced difference in PTP implementation when comparing China and Vietnam. Over the six months duration, the Vietnamese PTP seems to consider the importance of the practical part of the programme very poorly. The whole programme sets out to impart the

theoretical knowledge of pedagogy to its participants, who obviously have no pedagogical background, as the programme's target group is graduates from general universities or college. At the moment a PTP designed for educational university graduates is not envisioned.

By contrast with Vietnam, Chinese PTP is extremely practice-oriented. The two years of training seem to be quite adequate for developing the skills of its participants. However, PTP in China is less formal, in that it has no clear curricular structure and thus it is not clear, whether the focus lies on imparting teaching practice or practical occupational competence, or both.

Indonesia's one year programme is under development, but current discussions are focusing on the provision of additional pedagogical (theoretical) knowledge and teaching practice, and there is concern the development of (practical) vocational knowledge, skills and experiences are neglected.

The well-structured 18 month programme in Germany focuses on generating practical experiences in applying (theoretical) pedagogical and didactical knowledge to vocational learning. The less acute emphasis on vocational knowledge and skills is not as problematic, for most future teachers in Germany have already garnered comprehensive work experiences before entering a TVET teacher study programme.

By the comparison of the models this section attempts to emphasize the necessity to develop practical teacher skills and the need for a clear structured teacher training programme curriculum. In the absence of any or with only poor practice the expediency and the effectiveness of a training programme would be highly questionable. Practice is the best inquiry method of learning. Along with cognitive competences the practical competences shape a vocational teacher's professionalism as a whole.

5.3 Lack of industry involvement in PTP

The PTP concept in most countries is solely designed to develop the pedagogical competences of the prospective teacher. The concepts given do not take into account the need for industrial skills. As vocational teachers work on evolving their students working skills that must meet the standards and demands of industry, insight into industrial development and industrial skills are imperative for teachers. This means that teachers should at least have good and up-to-date knowledge on the current technology and its applications as well as the work processes and work organization in companies. To this end there is a real need to include and use learning opportunities provided by companies in the PTP. However, no government regulation exists strong enough to compel the industry sector to participate in or contribute to education development, and in particular the development of vocational education.

Cooperation with this sector could be developed in various forms. China is the only country to involve industry so far. Selected companies have been involved in the programme by sending their experts to vocational schools where novice teachers are training and deliver lectures or

seminars on distinctive topics regarding their industrial expertise. However, the PTP in China does not include companies as a venue of the training process. So far, mainly vocational schools and universities or colleges are the institutions involved in the training process.

5.4 Lack of regulation

The organization of teacher education including PTP is apparently complex, as several institutions, to ensure quality assurance, should be involved for synergy in the training process. Government, educational institutions, vocational schools and companies should work together and cooperate collaboratively to reach the goal. The ideal constellation among those parties is impossible to be set, if no ruling regulates the role, functions, responsibility, rights and obligations of the respective parties.

According to the analysis, the lack of holistic regulations as mentioned above is among the factors constraining implementation of PTP and attaining the goal of enhancing teacher professionalism. Save in Germany, all other partner countries tend to not enact such regulation. In the absence of standard regulation, many aspects of the PTP implementation, such as training duration, content, models and curriculum may differ from one training institution to another. As a result, the lack of standard is attached to the absence of a quality standard and thereupon the poor mobility of the trained teachers.

5.5 Training assessment and poor programme evaluation

There are a variety of schemes and methods used to assess the pre-service training programme. The methods cover the assessment in the initial phase up to the end of the programme. However, to what extent the applied methods are effective in improving output quality remains an unanswered question. Further research appears to be called for here.

One thing which appears common to all Asian countries is the fact, that there exist no external assessment procedures of the training output. In the case of Indonesia, according to the regulation, external assessors ought to be involved. However, in the actual implementation there is hardly any difference compared to the other countries. All training is undertaken internally or by the training institution itself, and also assessed internally. Theoretically, this setting suggests the subjectivity grade of the assessment could be high, caused by the emotional proximity between participant and assessor and even a culture of corruption and bribery in some countries thus totally compromising the quality of learning outcome.

Moreover it appears common in Asian countries that no provisions exist for the evaluation of programme implementation. The quality and effectiveness of design, duration, content and infrastructure of the programmes and the personnel in charge are not or have not yet been evaluated. In developing countries the lack of programme evaluation is not considered to be critical, as in these countries the educational programme development policies are usually stipulated in top-down management, that is to say – from the government to the implementing institution. Periodical evaluation procedures incur extra expenditure, which in many cases is not considered as investment in progress. This perception makes it extremely difficult to carry

out evaluation. No evaluation results in no transparency of quality and effectiveness, and frequently no systematic quality development.

5.6 Conclusions

Based on the comparative analysis of the country reports and the results described in the previous section, conclusions can be drawn as follows:

- The existence of PTP programmes to improve the professionalism and competence of vocational teachers is crucial in preparing prospective teachers before they begin their teaching careers in vocational schools.
- The development of practical skills should be one of the main objectives of the PTP. Hence prospective teachers can put their pedagogical theory into practice and gain introduction to the world of work.
- PTP has been implemented in most of the partner countries in various modes regarding duration, addressees, model, curriculum structure and institutions. In terms of theory-practice ratio, the Vietnamese PTP demonstrates a practice deficiency, whereas in the Chinese model the practice aspect is far more emphasized. Nonetheless, the Chinese training is not clearly structured.
- In most countries save China, the industry sector is excluded from the implementation of PTP, even though this sector is of the most important stake-holders of TVET output.
- None of the Asian partner countries has specific laws at a national level governing this type of teacher training, especially for vocational teacher training. As a result the assurance of a quality standard becomes difficult to establish.
- There is a need for the implemented PTP to be regularly evaluated. As stated in all reports, none of the countries is applying a mechanism of programme evaluation, suitable for measuring the usefulness and appropriateness of the PTP.
- Due to differences in several factors, the implementation of PTP in the partner countries displays different characters and problems, in each country the problematic issues must be tackled individually.

6 Recommendations

The empirical research carried out in the field here, coupled with content analysis from various written document sources has resulted in various conclusions indicating the need for a variety of steps to improve some aspects of the PTP implementation.

1. Empirical research as a basis for programme development

The first aspect relates to policy measures regarding teacher training provision which in most developing countries is largely dominated by the government in setting the rules for profes-

sional teacher formation programmes. It is frequently the case, especially in developing countries, that professional teacher development programmes are created and implemented “politically”. This means that programmes or policies often are made ignoring the real needs in the field and the applied strategies as a result do not appropriately and/or sufficiently support the improvement of teacher professionalism.

Based on the findings the study recommends conducting empirical studies on the training demands of novice teachers. Field research should be able to identify various factors concerning the actual state of teachers’ professionalism, including its strengths and weaknesses, and highlight the issues that call for immediate improvement. Knowledge of professionalization needs enables the development of PTP to be better targeted, more effective and more efficient.

2. Emphasis on the complete job profile

The second point highlights the problem of teacher professionalism regarding occupational skills. As teachers in vocational schools have distinctive and broad professional profiles, and bear the task of preparing youth to enter the world of work - they must work on developing their students working skills. As a consequence mastery of the occupational skills of their own teaching field cannot be separated from their professionalism. The skills mentioned here are skills that suit the industries’ needs regarding production and technological development. Nevertheless the focus on the development of occupational skills should not be at the expense of developing pedagogic skills. Occupational competence that is not coupled with pedagogical and didactical competence is insufficient for appropriately shaping processes of knowledge transfer. Hence, both these skills should be developed in tandem - in theory and in practice.

To meet these kinds of demands it is imperative the implementation of PTP not only emphasizes the enhancement of pedagogical skills, but also integrates aspects of the development of occupational skills into the curriculum.

3. Emphasis on cooperation between stakeholders

Such demands usually cannot be met by the institution organizing the PTP alone as a single player, but requires the synergy of cooperation with the industry sector as user of the vocational education outcome. The industry should be included and actively engage in the development of some phases of the programme, in line with the capacity of the industry; an example here could be the development of a collaboration-model facilitating the development of occupational skill in the PTP framework .The partnership with industry should be carried out intensively and simultaneously within the programme. This means, industry does not only play a role in delivering working expertise during learning processes in class, but they provide access to their world of work as well. Hence, vocational teachers could always have the opportunity to continually update their technical know-how.

In many developing countries the development of partnerships with the industry sector in an active way faces a common obstacle. Most companies retain the view that cooperation with educational institutions constitutes a burden for companies due to the expectation, that the company partner should provide extra service for the know-how transfer process to the trainees. To overcome this situation, companies could be offered attractive incentives or the PTP concept could be designed in such a way that they receive good return from the partnership with their educational counterparts. For this purpose the institution implementing the PTP, such as universities should actively approach companies and lure them by e.g. proposing certain schemes of cooperation, beneficial to both parties. Exchange of expertise, joint research or specific services in human resource development provide feasible examples for this purpose.

Furthermore, as governments are the main actors and regulators of the implementation of PTP, it is recommended that they too actively move to facilitate the cooperation between the parties. This, for example, could be achieved by enacting certain regulations to boost the development of partnerships between enterprises and PTP Institutions. Tax deduction or/and financial support for industrial experts involved in the PTP (like implemented in China) could also be effective tools.

4. Independent institutions for the implementation of PTP

The next point to be highlighted in this section is the institutional aspect of PTP implementation. According to the results of the study presented in the previous section, it is clear that universities play a dominant role in the delivery of PTP in Asia. A large amount of prospective teachers see this domination as a repetition of their learning process. They attend both their academic study programme in the educational field and their teacher training as preparation prior to teaching in vocational schools at the same institution, often under the same lecturers. Hence a number of aspects, such as the organizational style, the training personnel, those in charge, including the learning content, tend to remain the same.

The centralized implementation of PTP by universities would not be problematic matter as long as certain mechanisms of quality assurance are in place. But the reality in the field seems to be different. Findings in Indonesia for instance show that such dominance cannot yield significant improvement in the quality of training output, as universities tend to apply the same learning model and content, already imparted to the student during university studies. To repair this, it is recommended that the PTP is undertaken by independent institutions outside the university environment.

Compared to university entities, which must abide by university rules and regulations, independent teacher training institutions could be more flexible, as their independent management can provide more leeway for different innovations. In terms of human resources they could be more open for experts with different institutional backgrounds, i.e. experts from higher education and industry and vocational schools to join and to run the programme. Nonetheless, it must be assured that these independent training institutions are authentically instrumenting

innovation and change. The system should offer a mechanism, that can accommodate new potentials with the capacity and capability of providing more professional trainers within the framework of continuing quality assurance procedures.

5. Implement practical elements already in the first phase of TVET teacher education

The following recommendation refers to the PTP curriculum. PTP should be integrated into the curriculum of teacher education as early as possible. In the early stages of teacher education, for instance, at bachelor level in universities, some kind of PTP can be implemented in a complementary way, perhaps even in tandem. This is crucial, given the purpose of the PTP, which is to develop the students' working competence in the field of teaching. Thus, the implementation of PTP with teaching practice emphasis permits students an introduction into the world of work far earlier. Hence, at the end of the study programme students would be better prepared and able to cope with the job tasks in the work place. With the implementation of PTP curriculum oriented towards practice, the development of participants' teaching skills would be far better supported.

6. Quality development culture and formative programme evaluation

Given the importance of PTP in developing participants' competence, PTP should be designed to be dynamic and progressive; dynamic in the sense of the programme's openness to any constructive changes and progressive in the terms of continuous quality improvement of PTP and the ability to accommodate innovations. Programme monitoring and quality assurance procedures should be included permanently within the PTP development agenda. To this end a comprehensive and continuing formative evaluation mechanism is required. The evaluation should not be undertaken solely when needed to fulfil formal purposes, such as meeting accreditation requirement. But instead, such internal and external evaluation efforts should become an integral part of the institutional culture.

7. Holistic assessment procedures

There ought to be a holistic assessment to test the competence of PTP graduates. The assessment should not only focus on the pedagogical skills of the participants, but the competence profile as a whole, in which occupational expertise is also considered. The fields should be assessed in both a written and practical way, so the learner's cognitive and motoric improvement can be documented.

8. Appropriate / sufficient resources

Last but not least, improving the PTP infrastructure is to be recommended. The concepts and models applied in the PTP can only produce the targeted results if proper infrastructures are available. For this recommendation the goodwill of the stakeholders of the programme, especially the government as a dominant actor, is imperative. The government should see that the improvement of basic conditions such as infrastructure rather than being a burden is, on the contrary, an investment in the future of a better education.

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