DEVELOPING A COMPETENCY STANDARD
FOR TVET TEACHER EDUCATION IN ASEAN COUNTRIES

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ABSTRACT

Most ASEAN member countries are currently facing a lack of skilled labor which is jeopardizing their further economic development. To tackle this issue, it is crucial to improve the Technical and Vocational Education and Training (TVET) system, in which the quality of TVET teachers constitutes a main key factor. Establishing an International mutual TVET Teacher Master program and degree for ASEAN countries can enhance TVET teachers' competence in the ASEAN community. The paper presents a competency framework for TVET teachers in ASEAN countries that was developed by a focus group from five ASEAN countries during two workshops from 2015 to 2016, which can be used as a blueprint for setting up such an international TVET Master program for the ASEAN community. The paper also elaborates further steps to be conducted to set it into practice.

Keywords: TVET teacher training, competency standard, competency-based education, ASEAN

INTRODUCTION

As many other nations, also ASEAN member countries are struggling with a lack of skilled labor which is slowing down economic growth and jeopardizing their further economic and social development. One of the key issues to tackle this challenge is the development of Technical and Vocational Education and Training (TVET).

Regarding educational quality, the improvement of teachers' competence is seen as one of the most crucial areas of action (Hattie, 2008). Especially in the area of TVET, the quality and qualification of university and college teachers are intensely discussed topics and considered to be the most important success factor but also issue for delivering TVET (Lipsmeier, 2013; RCP, 2011: 41). This includes the teachers' ability to develop and follow modern curricula and to apply appropriate teaching and learning methods. The related competencies need to be delivered to them during their initial training at the universities or other institutions (UNESCO/UNEVOC, 2009). Proper teacher training will enable them to fulfil the continuously changing requirements of modern TVET systems and the world of work in the ASEAN community, which, as one of the most dynamic regions in the world, is undergoing rapid and fundamental changes in society, economy, and technology.

The most important task of TVET Teacher Training is to enable the teachers to prepare their students for the modern society and world of work not only for today but also for tomorrow. Hence, they need to relate teaching and learning to this world. To do so, they need to understand and apply modern methods and approaches of TVET education, such as Competency Based Training and Education (CBET) and outcomes-based education. Related to that, teachers also need to shift their teaching from teacher to student-centered teaching and learning and their role from instructors and lecturers to facilitators and moderators of the learning process.

TVET teachers not only need to prepare their students but also themselves for a constantly changing environment. Djatmiko (2016) states that to be professional in carrying their tasks, teachers must continuously improve competency themselves and perform quality assurance in their duties. As for example, currently all ASEAN countries are

synchronizing their educational systems based on competency and outcomes-based education and are implementing, related competency standards and assessment into their educational systems. Teachers need to be able not only to participate but also to proactively promote and shape this process. The ASEAN community and the related reforms, such as creating mutual competency frameworks or increasing the mobility of students and the workforce, requires new competencies of teachers which need to be defined in mutual standards for TVET teachers and university programs for TVET teacher education.

To contribute to this process a draft for a mutual TVET Teacher competency standard was developed, which is presented in this paper. It can be the fundament of an International TVET Teacher Master program and degree for ASEAN countries.

METHOD

To develop the competency framework draft, a modified focus group and DACUM (Develop a Curriculum) method approach was applied. The participating experts were 15 lecturers from universities and national institutes who are planning, conducting, developing and managing TVET teacher education and training in their respective countries, namely Cambodia, Indonesia, Laos, Myanmar and Vietnam. The development of the competency framework was a work task conducted as part of a series of workshops of the RCP Network project RECOTVET, provided by the *Deutsche Gesellschaft für Internationale Zusammenarbeit* (GIZ), a German development agency.

The modified focus group DACUM workshop method was based on a refined methodology of a previous project to develop an in-company trainer standard for ASEAN

countries by the author and other experts from 2014 to 2015 (Grosch & Fischer, 2015). As the target was not to develop a curriculum to train a vocation (the original DACUM purpose) but a competency standard for academic program to educate TVET teachers, it deviates from the traditional DACUM method by including additional elements, such as input sessions, group work elements and field trips. It did not include the final steps of DACUM to draft a curriculum. Overall, two focus group workshops, each for 2 weeks were conducted on October 2015 and March until April 2016. They included a cascading series of Brainstorming, Active Structuring and Meta Plan methods, enriched by input sessions of the moderator (the author of this paper), in which the participants were introduced into relevant theoretical approaches and methods, such as Competency Based Education and Training (GIZ, 2011), different competency models, standards from other countries and regions, modern trends and challenges in TVET teacher education, an introduction into student-centered teaching-learning and field trips to the industry. The enrichment of the process, using these inputs intended to inspire the focus group with new ideas, so the competency standard will not just reflect the current mind set and state of education in the participants' countries, but furthermore opening them to new ideas to develop a TVET teacher standard for the future. i.e. including competencies in the standard draft, which seem necessary to cope with future challenges and requirements of modern TVET teacher education. It can be seen as an equivalent to a gap analysis in a classical DACUM session.

To develop the competency standard draft, the ASK competency model (attitude, skills and knowledge) was applied, as one of the most common and accepted frameworks. The model is illustrated in Figure 1.
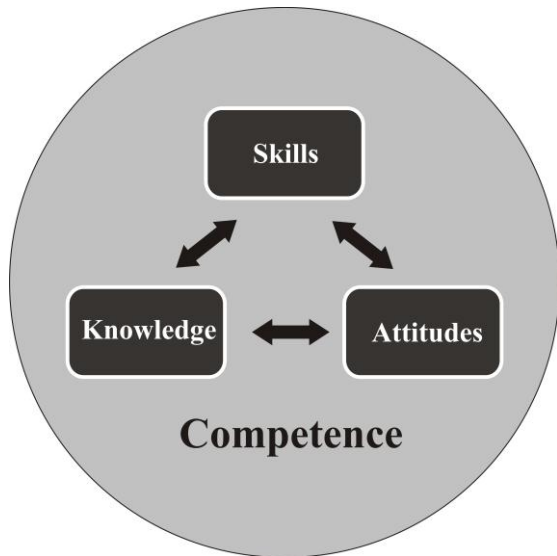
Figure 1. ASK-Competency Model

There are also other popular models, e.g. the model used in the European Union to define the European Qualification Framework EQF (European Communities, 2008). However, this model doesn't include the section of attitudes. As this area was seen as very essential for competency development by the group, it was decided to use the ASK-model to describe the competency standard.

RESULTS AND DISCUSSION

To prepare the development of the competency standard draft, firstly several group work sessions by country were conducted at the beginning of the workshop to determine the current state of TVET teacher education in the participating five countries. This process revealed that the largest share of the TVET teachers are graduated from Bachelor Degree programs specifically tailored for TVET teachers at specialized faculties or institutes for TVET teacher education inside universities or national training institutes. The group work process also revealed that there is an overall similar lack of certain competencies in all countries, such as: (1) the inability to cooperate with the industry in educational programs (2) a lack of competencies to apply modern TVET methods and concepts, especially CBET-related approaches (3) a lack of student-centered teaching-learning methods.

To close this gap, the group agreed that these competencies should be included in a mutual competency standard and particularly fostered in a Master program. Such a Master program would constitute a next, higher next level in the status quo of TVET teacher education of the participating countries and their national qualification frameworks, where a Bachelor degree is the common standard. Referring to the ASEAN Qualification Reference Framework AQRF (ASEAN, 2013), it should be located on level seven.

As mentioned in the methods section, the process of structuring the draft followed the ASK-model and describes the core competencies of a TVET teacher in terms of what a TVET teacher should be able to do and which related skills, knowledge and attitudes are needed.

The focus group work resulted in a competency framework draft, which consists of three modules, containing overall 15 competencies as follows: (1) Module I: Planning and Preparation: six competencies (2) Module II: Implementation: six competencies (3) Module III: Evaluation: three competencies Tabel 1, Table 2 and Table 3 describes the three modules, including all relevant competencies. Below the competencies, relevant related knowledge, skills and attitudes are listed as examples:

Table 1. Module I. TVET Teacher Competency Profile Draft

Module I: Planning and Preparation
A TVET Teacher is able to:
 1.   Identify students' background

Knowledge	Skills	Attitudes
(a) Psychological	(a) information collection and analysis	(a) willingness to communicate with students
(b) cultural	(b) interpersonal skills	(b) accepting individual differences of students
(c) administrative	(c) interview skills	(c) empathy to understand students' situation
(d) social		(d) respecting students' ideas and background

 2.   Design a lesson plan

Knowledge	Skills	Attitudes
(a) teaching schedule	(a) classroom management	(a) creativity and flexibility
(b) number of students	(b) using IT, computers and software	(b) pragmatism
(c) chronology of subjects	(c) choosing suitable curriculum and syllabus	(c) diligence and carefulness
(d) location and environment	(d) selecting appropriate content	(d) self-discipline to prepare in time
(e) learning requirements	(e) time management	
(f) frame curriculum		

 3.   Prepare, design and choose learning content

Knowledge	Skills	Attitudes
(a) subject expertise	(a) material searching	(a) discipline to follow requirements and regulations
(b) up to date subject content	(b) communication	(b) cooperativeness in designing teaching strategy and methods
(c) stakeholder requirements	(c) applying standards and setting them into practice	
(d) knowledge on standards	(d) choosing appropriate teaching content	

 4.   Design suitable teaching strategies and methods

Knowledge	Skills	Attitudes
(a) teaching methodology; learning psychology; subject characteristics	(a) setting theory into practice	(a) Willingness to change teaching strategies and methods
	(b) teaching methods	
	(c) communication	
	(d) selecting appropriate strategies and methods	

 5.   Choose and prepare suitable material and media

Knowledge	Skills	Attitudes
(a) media theory	(a) operating media hard- and software	(a) willingness to change teaching strategies and methods
(b) media technology	(b) classroom management	(b) creativity and flexibility
(c) media psychology	(c) selecting appropriate instruments	
(d) instruments and tools	(d) presentation	
(e) media design		

 6.   Design assessment strategies and instruments

Knowledge	Skills	Attitudes
(a) subject characteristics	(a) identifying students' competency levels	(a) creativity in designing assessment strategies and instruments
(b) assessment methods and principles	(b) using statistical analysis and tools	
(c) students' levels	(c) designing assessments	
(d) statistics		

Table 2. Module II. TVET Teacher Competency Profile Draft

Module II: Implementation

A TVET Teacher is able to:

7. Motivate students in the learning process

Knowledge	Skills	Attitudes
(a) methods of motivation (b) psychology (c) social relations (d) students' interests and background	(a) verbally addressing students (b) sensing characteristics of students (c) using different motivation methods (d) using media for motivation (e) using body language (f) ability to show the students the benefit of learning for their own life	(a) respect students' individual characteristics (b) empathy concerning students' conditions (c) willingness to share problems with students (d) passion to encourage students

8. Manage class activities

Knowledge	Skills	Attitudes
(a) leadership techniques (b) management and administration (c) group work techniques (d) ways to control the class	(a) skills to control the class (b) leadership skills (c) time management (d) class handling (e) facilitation (f) collaboration (g) organization	(a) creativity to improve class atmosphere (b) flexibility between friendliness and seriousness (c) disciplined but flexible during time management (d) fairness with students during class (e) objectivity in valuing students' activities and behavior in class

9. Communicate with students, colleagues and other stakeholders

Knowledge	Skills	Attitudes
(a) national, language, cultural, individual etc. background of students (b) theory and practice of communication in specific situations	(a) interactive and interpersonal skills (b) communicative skills (c) team building skills	(a) patience in initiating communication with students, colleagues and other stakeholders (b) professional ability to perform constructive communication (c) listening politely and attentively during communication

10. Apply teaching strategies and methods

Knowledge	Skills	Attitudes
(a) creating good syllabus (b) teaching-learning strategies (c) specific teaching methods and their use (d) student-centered teaching and learning	(a) adapting methods according to situation (b) using teaching techniques (c) teaching skills (d) using variety of teaching methods; adaptive skills	(a) creatively choosing the best teaching method (b) innovative in finding suitable teaching method (c) flexibility in choosing the best teaching method in different conditions

11. Connect students with the working world

Knowledge	Skills	Attitudes
(a) work place training (b) internship possibilities in companies (c) experiential knowledge about real world (work places etc.)	(a) fostering students' employability (b) team work (c) facilitating internships in suitable companies	(a) taking responsibility in providing real world experience (b) discipline to follow working world demands (c) pragmatism in providing real work examples (d) creativity in designing real work assignments

12. Use suitable material and media

Knowledge	Skills	Attitudes
(a) how to use materials and media (b) using teaching media (c) technological knowledge	(a) media usage (b) combining different media and materials (c) applying technological skills	(a) creativity and precision in choosing suitable media and material

Table 3. Module III. TVET Teacher Competency Profile Draft

Module III: Evaluation

A TVET Teacher is able to:

13. Assess students' learning outcomes

Knowledge	Skills	Attitudes
(a) assessment techniques	(a) applying quantitative and qualitative analysis information and data	(a) reliability and objectivity in designing and conducting assessment tasks
(b) assessment methods	(b) applying assessment techniques	(b) precision when designing assessment criteria
(c) assessment criteria	(c) designing assessment criteria	(c) sense of responsibility and empathy when giving feedback and grading
(d) principles and methods of competency based and outcomes-based assessment	(d) using statistical and other software	
	(e) apply CBET assessment methods	

14. Provide and get feedback from students

Knowledge	Skills	Attitudes
(a) information and data collection methods	(a) choosing the right data collection technique	(a) transparency when giving feedback
(b) ways of analyzing problems	(b) getting information from students	(b) respecting students' ideas
(c) ways of problem solving	(c) interpreting information from students	(c) fairness with all students
(d) consulting techniques	(d) observing and interpreting students' behavior	(d) encouraging self-improvement of students
	(e) observing and interpreting own behavior	(e) patience
	(f) encouraging students to give feedback	(f) Willingness to accept criticism from students and to change behavior if necessary
		(g) Self-criticism

15. Conduct an evaluation process

Knowledge	Skills	Attitudes
(a) peer review evaluation	(a) applying standards	(a) willingness to update own assessment knowledge and skills
(b) self-evaluation	(b) conducting research	(b) creativity in designing assessment methods
(c) quality assurance	(c) communication	(c) carefully analyzing results
(d) action research methods	(d) creating instruments for assessment	(d) willingness to give individual feedback punctually or in time
	(e) analyzing teaching process	
	(f) identifying problems and find solutions	
	(g) self-introspection	

Regarding the methods and process of developing the competency framework, it turned out to be fundamental for the success of both of the focus group workshops, that all participants encompass the underlying definitions, concepts, theories and models, such as the theory of competency, competency-based education, educational standards, outcome-oriented education etc. Concerning the applied ASK Competency Model, in the beginning of the process it proved to be hard for the participants to understand the different terms and their meaning, e.g. the difference between knowledge and skills and the meaning of attitudes. As there is also a general confusion between the different pedagogical traditions regarding some of the terms and concepts, for example concerning the definition of "competency" and "skills", these key terms needed to be made understood in detail before and during the development of the competency framework, to create a mutual knowledge base. Hence, a large share of time was spent to clarify the meaning of the related terms and models.

For the further transformation of the competency draft into a standard and a curriculum, these terms and their definition should be included into the standard in the form of a glossary. The process of distinguishing different terms and understanding their meaning not only helped the participants to understand their meaning, but also contributed in clarifying the content and relevance of the competency standard draft. Especially while working on the attitudes section all participants became aware of the immense importance of having proper attitudes to acquire pedagogical competencies.

The TVET teacher competency standard in the version which was presented above is still a draft and needs more elaboration and finalization during a further process. While the list of competencies and their wording already seems elaborated, the sub-sections knowledge, skills and attitude need to be further revised concerning their consistency and comprehensiveness, e.g. to clarify interferences between the categories "skills" and "knowledge". During potential follow-up sessions, also more stakeholders, especially from the industry and from the educational administrative level need to be involved, in addition to the group of university lecturers who participated in the previous focus group workshops. Beyond, also ASEAN participants from other than the five countries which already participated need to be included, if the framework should target TVET teacher training in all ASEAN countries.

As the current competency framework draft only includes pedagogical competencies, also the area of professional competencies needs to be explored, as all TVET teachers in the target countries are usually teaching one major subject or vocational discipline. The pedagogical competencies need to be reflected based on this vocational or professional background, e.g. to explore if they are didactically appropriate, efficient etc. If any concerns regarding its suitability are occurring, the pedagogical standard needs to be modified and adapted, e.g. by splitting in up into a core competency standard for all professions and industries and several specific standards for different vocations.

The developed competency framework is based on the ASK-model and hence belongs to the group of "horizontal" frameworks which generally distinguish between different competencies but not include the different levels of these competencies as a vertical dimension. However, the overall competency level of the whole standard was discussed and set to be on the Master level by the experts' group. In the further process, the vertical competency structure can be elaborated in detail, e.g. which of the listed competencies are already covered to which level on the already existing Bachelor level programs. Later on, e.g. by applying the Dreyfus and Dreyfus (1980) Model of Skill Acquisition or a similar model, the vertical dimension can be drafted for each competency, including skills, knowledge and attitudes in the further process, which will finally lead to a two-dimensional competency matrix. This matrix can be used to develop a Master curriculum that follows up on the Bachelor level competencies of TVET teacher program students and matches with the ASEAN Qualification Reference Framework AQRF (ASEAN, 2013).

The focus group process and the included activities revealed that all three competency modules of the framework draft and most of the included competencies are already part of the Bachelor-level TVET teacher curricula in the participants' countries in one way or another. However, the general approach of the framework, which reveals itself in the details, such as the relevant skills, knowledge and attitude is essentially different and includes a shift from traditional to modern approaches of student-centered teaching and learning and CBET in all three modules. Some of the competencies also are not included in the curricula yet, and need to be particularly promoted, among others especially competency of connecting students with the working world.

CONCLUSION

The developed TVET teacher competency standard could be a useful draft to further synchronize and to move TVET Teacher education in the ASEAN community to the next level. It is recommended to finalize the competency standard in further focus groups, including more stakeholders and ASEAN countries and to consider establishing an international TVET master program using a finalized version of the standard draft. During this process, the standard needs to be translated into a frame curriculum, containing further elements, such as: teaching and learning topics, length and credit points, learning places, additional modules, especially pre-service teacher training, internships, entry requirements, graduation requirements, assessment criteria, possible types of conducting (full time study, separate pedagogical program or integrated with professional vocation, program language etc.). During all possible activities, the main philosophy, areas of action and challenges need to be kept in focus by all participants, such as CBET- and outcome-orientation, the right balance between professionals and vocational competencies in the field of teaching and pedagogical competencies, connecting to the industry (dual or cooperative education), high quality pre-service teacher training and focus on the ASEAN process or internationalization. Later on, one or more universities or national institutes need to be convinced to establish the program. Funding donors, such as SEAMEO, ADB or other resources need to be acquired. The program should be developed and/or monitored by institutions which got experience in this field and were already involved in the process, such as Karlsruhe Institute of Technology (KIT), Germany and International Consultants for Training and Education (ICTE),

Germany which were moderating the development of the standard framework draft that was presented in this paper.

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