



REGIONAL TVET TEACHER STANDARD FOR ASEAN

ESSENTIAL COMPETENCES FOR TVET TEACHERS IN ASEAN



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ESSENTIAL COMPETENCES FOR TVET TEACHERS IN ASEAN

SEAMEO VOCTECH AND GIZ

SECOND VERSION:

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PREFACE

A teacher standard is a central instrument in the transparent design of quality teacher training, for profiling in-service teachers to ensure they meet the necessary competence requirements as well as for considering their career development. A teacher standard has to meet the demands of both society and the economy and must be regularly reviewed and updated. Such a standard is also an instrument meant to contribute to the development of a common understanding of the competences of a TVET teacher.

The massive impact of digitalization on societal and economic development makes it imperative to check and update the first version of the *“Regional TVET Teacher Standard for ASEAN”* (RTTS). During previous meetings and discussions, participants expressed their concerns and suggested that the first RTTS be adjusted to facilitate changes in response to the industrial revolution as well as to place a strong emphasis on vocational disciplines. The proposed changes concentrate on aligning the standard closer to the requirements for teachers in vocational education and to orient them towards various good practices from within and outside the region. The standard should be formulated in such a way that roadmaps for the development of teacher training in the individual countries could be drawn up.

In the first draft of *“Regional TVET Teacher Standard for ASEAN”* (RTTS), the vocational disciplines were not clearly defined and embedded in the standard. For teacher training purposes, the swift societal, economic and industrial development underpins the necessity to refer to vocational disciplines which are oriented towards economically relevant sectors. Based on these considerations, a revision of the standard was conducted which considers the vocational disciplines following the sector structures defined by UNESCO-UNEVOC in 2004. Taking account of these references, the standard is more precise and give an accurate image of all competences which are important for teachers.

The revision further modifies the standard of the first draft by maintaining the first component or area of *Personal and Social*, and merging the second and third areas, *Pedagogical and Technical* with the Vocational component comprising Vocational Research, Vocational Disciplines, Vocational Didactics, Vocational Pedagogy and Vocational Management. The merging of areas 2 and 3 into one vocational area thus avoids the duplication or repetition of competences and at the same time emphasizes the importance of Vocational Disciplines. The revision also considers an actualization of the standard through a closer link to the changes in the world of work. In addition, the monitoring instrument is now accorded greater detail and is easy to implement based on a common practice.

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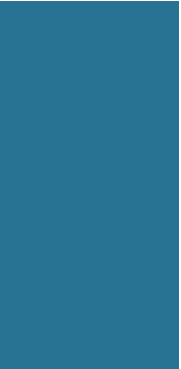
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ABBREVIATIONS

AEC	ASEAN Economic Community
AMS	ASEAN Member States
APACC	Asia Pacific Accreditation and Certification Commission
AQRF	ASEAN Qualification Reference Framework
ASCC	ASEAN Socio-Cultural Community
ASEC	ASEAN Secretariat
BIBB	Bundesinstitut für Berufsbildung / Federal Institute for Vocational Education and Training
CPD	Continuing Professional Development
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
KMK	Kultusministerkonferenz / Standing Conference of the Ministers of Education and Cultural Affairs of the States in the Federal Republic of Germany
ICT	Information and Communication Technologies
QA	Quality Assurance
RECOTVET	Regional Cooperation Programme for TVET in ASEAN
RCP	Regional Cooperation Platform for Vocational Teacher Education and Training in ASEAN
RTTS	Regional TVET Teacher Standard for ASEAN
RWG	Regional Working Group
SEAMEO	Southeast Asian Ministers of Education Organization
SEAMEO VOCTECH	SEAMEO Regional Centre for Vocational and Technical Education and Training
TQM	Total Quality Management
TVET	Technical and Vocational Education and Training
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNESCO-UNEVOC	International Centre for Technical and Vocational Education and Training of the UNESCO
VEDI	Vocational Education Development Institute, Lao PDR



INTRODUCTION



1. INTRODUCTION

To enhance regional cooperation and harmonisation in TVET, the RECOTVET programme, which is funded by the *German Federal Ministry for Economic Cooperation and Development (BMZ)* and implemented by the *Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)*, is supporting ASEAN Member States (AMS) in a series of breakthroughs in TVET development at a regional level. A particular focus of RECOTVET is on the improvement of framework conditions for the people involved in TVET planning and delivery. With the programme's support, experts from Southeast Asia and Europe have been working on an overarching *Regional Quality Assurance Model (RQAM)* for TVET and TVET Personnel in Southeast Asia, focussing on quality criteria for the engagement of the private sector in TVET and the qualification of TVET teachers. Complementary, two competence profiles for TVET personnel have been developed: The *Regional TVET Teacher Standard for ASEAN (RTTS)* and the *Standard for In-Company Trainers in ASEAN Countries (ASEAN In-CT)*. As an important cornerstone in knowledge sharing and management, RECOTVET also supports SEAMEO VOCTECH in the development of a *Regional Knowledge Platform on TVET*.

All four key outcomes that have been developed from 2015-2017 by representatives of Southeast Asian countries are closely interlinked and complementary. There is a particular connection between the RQAM and the RTTS, since the RQAM also focusses explicitly on TVET teaching personnel while the RQAM represents a framework comprising common criteria promoting demand-orientated and effective TVET delivery based on a joint understanding between the ASEAN Member States. The model focusses particularly on certain areas of a TVET system, namely 1) Industry involvement, 2) TVET personnel, and 3) Audit and Assessment. While different in scope, the RQAM can be complemented by the RTTS as it focuses on TVET teacher qualification and gives policy makers an in-depth picture of the needed competence profile for TVET teachers in Southeast Asia. The linkage is specifically manifested in the focus area of the *RQAM Teaching Personnel*, which purposely reflects the three main components of the RTTS. Looking at the RQAM, it becomes obvious that the four improvement criteria in *Teaching Personnel* resemble the three components from the RTTS: The *Personal and Social area* is in line with the improvement criteria *Networking with the Community*. The alignment in terms of *Vocational Pedagogy and Teaching Methodology* comes naturally as it covers a fundamental part of teaching. Furthermore, the *Vocational Discipline* relates directly to *Standards of Professional Teaching* to elaborate the importance of expertise and work-related and technical knowledge in the respective occupation and workplace. Additionally, one of the central characteristics in both documents is the industry experience that ensures demand orientation of teaching and learning. Overall, the linkage between both documents is significance for the further improvement and harmonization of quality of TVET personnel.

Headed by SEAMEO VOCTECH, the RTTS was developed by a regional working group with the support of RECOTVET. The regional working group obtained voluntary contributions of expertise and experience from representatives of nine ASEAN Member States: Brunei Darussalam, Cambodia, Indonesia, Lao PDR., Malaysia, Myanmar, Philippines, Thailand and Viet Nam¹. The Regional TVET Teacher Standard has been endorsed by the 3rd High Officials Meeting on SEA-TVET in Kuala Lumpur, Malaysia in May 2017 and by the 49th SEAMEO Council Conference in Jakarta, Indonesia in July 2017. The 12th ASEAN Senior Officials Meeting on Education (SOM-ED) in Bangkok has taken account of the RTTS as a regional standard endorsed by its members on 1st December 2017.

The term "Regional TVET Teacher Standard for ASEAN" or RTTS is used to describe to this document with all its provisions as approved by SEA-TVET HOM and SOM-ED. Where the word "standards" appear, it refers to the various provisions and regional guidelines the document offers for TVET teachers.

¹ Details of individuals and organizations contributing to the Standard are in the Annex 4

2

IMPROVED QUALITY OF TVET TEACHER QUALIFICATION

2. IMPROVED QUALITY OF TVET TEACHER QUALIFICATION

Qualified TVET Teachers are essential to improve the trainee's skill development. Clear and transparent guidelines concerning the qualifications, selection and promotion criteria are key to teacher's qualification.

Technical and Vocational Education and Training (TVET) Personnel and in particular **TVET teachers are an essential part of the TVET system** all over the world and fundamental to the education and training of learners and for the success of the TVET system as a whole. The importance of well-qualified TVET teachers is well documented in research and has been a core element in such international statements as the *Cha-Am Hua Hin Declaration on Strengthening Cooperation on Education to achieve an ASEAN Caring and Sharing Community (2007)*; the *Shanghai Consensus: Recommendations of the Third International Congress on Technical and Vocational Education and Training (2012)*; and the *Kuala Lumpur Declaration: Quality Education and Skills Development for Sustainable Future (2015)*. Qualified TVET teachers are able to streamline the trainees' TVET school experience in order to help them to develop skills, knowledge and attitudes according to the demands of the economy and society. In this regard, the *Vientiane Joint Statement (2015)* emphasizes the need to establish and agree on regional standard for TVET teachers to further support regional strategies for highly qualified TVET personnel. Thus, the 7 priority areas of **SEAMEO's Work Plan for 2015-2035** highlight the promotion of TVET in general, as well as revitalizing teachers' education and professionalism and the regional process of harmonizing standard for TVET personnel.

However, despite wide recognition of the important role of teachers in the context of educational challenges of the twenty-first century to ensure young people have the necessary competence and skills, many countries have not given teachers the support needed. As a result, there is still a noteworthy decline in teachers' social status (UNESCO 2016: vii).

Therefore, one of the key recommendations from UNESCO's (ibid: 4) study on the status of teachers is to "enforce clear and transparent guidelines concerning the qualifications, selection and promotion criteria that are relevant to specific roles and responsibilities." Consequently, the *ASEAN Ministers of Education* committed themselves to the development of regional standard for TVET personnel. In their meeting in June 2016, the ministers endorsed the new **ASEAN Work Plan on Education 2016-2020**. In this workplan, the ASEAN Member States commit themselves to improvements and reform in eight priority areas. Under priority 4: "*Strengthening Regional Harmonization for the Advancement of Quality TVET Transformation through Networking, Partnerships, and Mobilization of TVET Personnel and Resources*"; one of the expected outputs is the development of regional standard for TVET personnel. The *Regional TVET Teacher Standard for ASEAN* follows up on this commitment. It has been jointly developed by AMS with support from SEAMEO VOCTECH and GIZ. By analysing National TVET Teacher Standards (and standard development processes) in the ASEAN region and exploring TVET teacher education in Germany, experts from within the ASEAN region have developed the *Regional TVET Teacher Standard*.

A regional standard cannot aim at replacing national standards. It should provide guidelines for the essential competences, skills, the knowledge and abilities for successful TVET teachers.

The competences described in this standard could be used as a reference to national standards or for benchmarking.

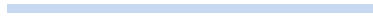
With a view to the diversity of TVET systems in Southeast Asian countries, a regional standard **cannot aim at replacing national standards**. Instead, it **provides guidelines for the essential competences**, skills, the knowledge and abilities that a successful TVET teacher should possess. The standard can act as a reference and benchmarking document. It contributes to a common understanding of what constitutes an adequately qualified TVET teacher. Standards are common tools to define and ensure quality of TVET personnel qualification. The standard aims to define the core competences for TVET teachers in Southeast Asia that comprehensively prepare their students for their transition to employment.

TVET systems in the ASEAN countries (as in most regions all over the world) **are diverse, with different and varying histories and origins**. The same applies to the qualifications and training of TVET personnel and TVET teachers in particular. Nonetheless, the improvement of the “qualifications of TVET teachers” is high on the agenda of each ASEAN Member States. As shown in a recent study conducted within the framework of the Regional Cooperation Platform for Vocational Teacher Education and Training in ASEAN (RCP), nearly all AMS have developed standards for TVET teachers (RCP 2017). The level of implementation of the standard differs, however, one of the key findings is the **lack of a common understanding of the necessary skills and competences of TVET personnel**. Although education pathways for TVET teachers differ significantly in AMS, there is a jointly identified need for a common understanding of the roles and responsibilities of TVET teachers and the competences they should possess in order to contribute to a demand-oriented TVET system and in preparing youth for the labour market. Regionally accepted criteria for TVET teachers have the potential to serve as guidelines for national teacher training curricula and can improve the comparability of TVET teacher qualifications. Next to a quality increase in TVET teachers, this can lead to an increased acceptance of TVET personnel and thus increase the relevance of TVET in the ASEAN region.

Hence, the regional standard will **support AMS in adapting the training of TVET teachers** to meet the demands of both society and the economy, initiating a continuous improvement process. The **standard aims at establishing a common understanding of the competences of a TVET teacher**. When developing or updating national standards, the competences described could be used as a **reference to national standards or for benchmarking** in order to ensure that the ASEAN member states are supplied with comparable and high-quality TVET teachers.

3

VISION AND MISSION



3. VISION AND MISSION

The purpose of this document is:

- a) to support the political discussion among AMS concerning the improvement of TVET systems by increasing the quality of TVET teacher qualification; and
- b) to give orientation for responsible personnel in TVET education to ensure development of appropriate competences of TVET teachers in AMS.

The document is an outcome of the implementation of the aforementioned **ASEAN Workplan on Education 2016-2020**. A more detailed description of the TVET teacher qualification can be found in **Annex 1** where the required competences and corresponding teacher tasks are discussed. This allows the interested reader to acquire a **detailed overview concerning the TVET teacher requirements and competence profile**.

THE VISION: COMPARABLE TVET TEACHER EDUCATION IN SOUTHEAST ASIA

The development of a comparable and common TVET teacher education and curriculum in the ASEAN countries based on the Regional TVET Teacher Standard for ASEAN is a key vision for the future.

While the current standard is merely a guideline and a reference frame for the adaptation of national TVET teacher education, the vision for the future describes the **development of a standard such as a common framework curriculum for TVET teacher education**². Therefore, the aim is to achieve **regional acceptance** and an enhanced public image of the **substantial impact** that TVET teachers have in further TVET developments. The current Regional TVET Teacher Standard for ASEAN focus on the comprehensive competence profile of TVET teachers and reflects on the expected skills of a professional TVET teacher throughout the ASEAN region independent of their vocational discipline. A nationally applied, clearly structured and regionally accepted standard (including a regional framework curriculum) for TVET teachers would support the continuous improvement of the national and regional TVET systems. In the future, a TVET teacher training curriculum based on this regional standard could be recognised by AMS and eventually encourage mobility in the region. So far, there is no regional mechanism or institution to support such an approach or accredit regionally qualified TVET teachers.

² Similar to the International Framework Curriculum for a Master degree for TVET teachers and lecturers (UNEVOC 2004).

THE MISSION: QUALIFIED TVET TEACHERS

The mission of the creation of Regional TVET Teacher Standard for ASEAN is to identify core elements of successful TVET teacher qualification and common competences for TVET teachers in the ASEAN region. The objective for TVET teachers should be the development of occupational competence and to support students in developing competences, skills, knowledge and attitudes according to the demands of the economy and society.

The role of a qualified TVET teacher is shifting from a technical practitioner to a professional expert in supporting learning processes and competence development as well as ensuring TVET principles and developing TVET institutions³. TVET teachers are expected to exemplify vocational disciplines and therefore combine general pedagogical knowledge with specific occupational pedagogic and didactic skills that are grounded in strong experience and competences in a vocational working field. These expectations require the TVET teacher's work to be interdisciplinary and innovative in order to achieve the mission of being a qualified TVET teacher.



The development of “occupational competence” should be closely related to practice so that the TVET teachers meet the demands of teaching and school life at professional schools.

The main objective of TVET teacher training should be the foundation and **development of occupational competence** (see Glossary). The promoted skills should be closely related to practice so that the TVET teachers meet the demands of teaching and school life at professional schools. The TVET teacher will be able to work in team situations with other teachers, professionals from companies or relevant community members. Realistic learning situations will promote professional competences of the trainees and help individuals to manage their own training success. There is no doubt that especially in TVET, a student-centred and practice-oriented approach to training will be essential to strengthen employability.

³ Literature distinguishes between different types of teachers, such as a) teachers of basic education subjects; b) teachers of theoretical or knowledge-based elements of vocational programs, c) training managers or e-learning tutors (Volmari et al. 2009, p. 15; Parsons et al. 2009, p. 79; UNESCO 2016, p. 2; Ismail et al. 2018, p. 42 f.), the most common type in Southeast Asia is the “integrated teacher”. An integrated teacher is qualified to provide theoretical and practical instruction in vocational education programs. The qualification is usually gained by an academic degree at least at the Bachelor level; in most cases with additionally qualification elements. The extended responsibility and task area requires a master degree for TVET teachers in the future. “It should be recognized that advance in education depends largely on the qualifications and ability of the teaching staff in general and on the human pedagogical and technical qualities of the individual teachers” (ILO 1966, p. 22). This requires high standards for teacher training.



A central challenge is to minimize the knowledge gap between the TVET schools and the workplace. Therefore, a significant part of the training should be carried out directly at the workplace or in a simulated workplace learning environment.

The challenge is to minimize the knowledge gap between the TVET schools and the workplace as much as possible. This gap can only be reduced if a significant part of the training is carried out directly at the workplace or in a simulated workplace learning environment. It is necessary that norms and values, which are in line with the school's educational mission and the professional-ethical self-understanding, are considered. The Regional TVET Teacher Standard is based on the idea that the qualification concerning didactics and methodology as well as pedagogy and educational psychology will be acquired during specific and realistic teaching situations (further information and recommendations for implementation can be found in Annex 2).

4

DEVELOPMENT PROCESS AND METHODOLOGY



4. DEVELOPMENT PROCESS AND METHODOLOGY

A participatory approach was chosen as a key success factor in creating ownership among national partners from AMS.

SEAMEO VOCTECH and the RECOTVET programme took up recommendations from regional and international conferences and meetings to increase the quality of TVET teaching personnel throughout the region as a key for a better TVET system. TVET teacher education is widely regarded as a critical issue in Southeast Asia. One of the initiatives in response to this recommendation is the development of a regional TVET teacher standard that will eventually contribute to the enhancement of TVET teacher quality.

A **participatory approach** was considered a key success factor. The joint development of the content and the vision and mission of the Regional TVET Teacher Standard for ASEAN was an important process in creating ownership among national partners from AMS. The development process included the establishment of a regional working group that developed the standard in the timeframe 04/2015 – 09/2017. In total, there have been:

- 6 regional working group meetings,
- 3 digital meetings,
- 1 study trip to Germany,
- Participants from 8 AMS,
- More than 35 written feedbacks for the 3rd draft *Regional TVET Teacher Standard*.

Working group meetings in the timeframe 2017 – 2019 discussed the suitability of the RTTS for AMS and decided to revise it, to

- integrate a description of a core profile of TVET teachers as a basis for definitions of standards,
- improve the understanding of a “standard” for TVET teachers,
- give a better orientation for the member states of teacher education pathways, especially a clarification of the term ‘TVET teacher training’,
- highlight the meaning and specificity of vocational pedagogy in comparison with general pedagogy,
- make clear the specific role of vocational didactics as subject didactics,
- clarify the role of vocational disciplines (subject matters).



TVET training and TVET teachers will be one of the most crucial factors in the development of countries' societies and economies.

For all participants, it was important to create a product that does not copy a national approach from a different country or region. In addition to the regional development approach, the experts and participants were encouraged to initiate national discourses and consultation processes on the improvement of TVET teacher qualification.

The participants, who included representatives of the Ministries of Labour and Education and TVET teacher qualification institutions from Southeast Asia, came to the conclusion that TVET training and TVET teachers will be one of the most crucial factors in the development of their countries' societies and economies. At the working group meetings in April 2015 (Hanoi), October 2015 (Siem Reap), March 2016 (Bangkok) and June 2016 (Germany), participants discussed the objectives, relevance and methodology of the standard, before engaging in detailed discussions on the (regional) requirements of TVET teachers in ASEAN. At the 3rd meeting in Bangkok in March 2016, the overall structure of the standard was agreed upon and the core elements were identified. During the 4th meeting in Germany, the content and the characteristics of the standard were discussed. In two separate digital meetings in July and October 2016, the participants discussed the *Regional TVET Teacher Standard* based on the feedback they had received at the national level.

The 5th working group meeting in Vientiane in January 2017 focused on the refinement of the 3rd draft of the standard. An open hearing was therefore organized with stakeholders from the Laotian *Vocational Education Development Institute (VEDI)* and participants of *Human Capacity Development Training for Executive Experts and ToT Teachers* (organized by the RECOTVET programme). In total, more than 50 people participated in that meeting. The first version of the *Regional TVET Teacher Standard for ASEAN (RTTS)* was adopted at the meeting of the working group in Hanoi (Vietnam) in May 2017, where the representatives from eight different AMS endorsed the draft *Regional TVET Teacher Standard* and agreed on a strategy to receive regional endorsement by the Ministries of Education in Southeast Asia.

In August 2018, a working group discussed further improvements of the standard at SEAMEO VOTTECH in Brunei. The central question was how the feedback of the first draft could be taken into consideration and where optimizations are appropriate. This resulted in highlighting that the profile of professional TVET teachers must be more precisely described – with reference to the vocational disciplines following the recommendations of UNESCO-UNEVOC. Thus, this second version of RTTS can eventually prevent teachers without specific specialized references being trained for teaching at vocational schools.

5

TVET TEACHER PROFILE

5. TVET TEACHER PROFILE

“While there is widespread agreement on the central role of teachers, opinions vary on how quality is defined and how it is assessed” (UNESCO 2016, p. 7).

5.1 DEMANDS AND FIELDS OF RESPONSIBILITY OF TEACHERS

Quality of teaching is often determined by the outcome of the learners, by measuring how well learners perform at examinations. It is however crucial that different levels and parameters of a TVET system influence the outcome. TVET systems are networks with interdependent system areas where three factors besides framework conditions determine the quality: *Teachers, Learners* and the *Content of Learning*.



Nowadays mostly framework conditions are in the focus of quality assurance. Teachers, Learners and Content are interdependent factors which should move in the centre of improving learning quality.

Additionally, the framework should deliver suitable conditions for learning such as, for instance, a legal framework, rooms, equipment and media and so on, but teachers are the essential actors for bringing together the framework with the content and the learners. Therefore, a TVET Teacher Profile has to be defined in such a way that it becomes clear what TVET teachers should be able to do to produce “quality”.

Strangely enough, most quality assurance systems for TVET focus on the framework conditions and on topics like certification and assessment, also for describing standards for teachers (e. g. UNESCO 2017). A TVET Teacher Standard should focus on the above-mentioned three main factors, the *Teachers, the Learners and the Content of Learning* with the teacher in the centre.

Based on UNESCO and an international working paper (ILO 2015), eight parameters have been identified that form the framework of development processes of societies. One of these processes is:

Professionalizing TVET teachers and trainers

Improving TVET professionals is the core of this parameter. The relevance of this target is highlighted by an analysis of the deficits in pre- and in-service training and training of teachers and trainers. With the aid of a catalogue of reforms, based on a publication by the International Labour Organization (ILO 2015), **12 reference steps – across four pillars – are pointed out whose implementation could contribute to a considerable quality improvement in the training of teachers and trainers. The aim is to develop a coherent, inclusive and high-quality system for the training of teachers and trainers⁴:**

⁴Summarized by Stolte 2019.

Pillar One: “Structure and Relevance” – key elements

1. Providing a four-phase training system for TVET teachers and trainers:

- Non-academic industry and/or service work experience of varying duration (minimum 6 months),
- Initial university, post-secondary or tertiary studies from one to three years on average,
- Pre-service teacher training in addition to disciplinary studies,
- Ongoing in-service teacher training (CPD).

2. Setting up close linkages between training and industry:

- Involving TVET teachers in establishing public-private partnerships between schools and companies,
- Making workplace learning for teachers & trainers as well as their students obligatory (through guided internships and other means),
- Improving reputation and public perception of internships and apprenticeships (e.g. by considering them as part of the national training approach in TVET).

3 Ensuring meaningful participation of teachers and trainers at the policy level in TVET system design and reform:

- Representing TVET teachers and trainers in national/regional expert groups in skills development reforms,
- Involving TVET teachers in establishing new TVET programmes (pre-employment, apprenticeships or adult education),
- Supporting research on TVET at universities and research institutes.

Pillar Two: “Responsiveness and Inclusion” – key elements

4. Integrating entrepreneurship education into training:

- Highlighting entrepreneurship in developing attitudes and characteristics in TVET students,
- Creating awareness of enterprise and self-employment as a career option for young people,
- Reviewing curricula materials, delivery methods and programmes to integrate entrepreneurship into the curriculum,
- Equipping teachers with skills needed to teach entrepreneurship utilizing interactive learning methodologies.

5. Designing gender-balanced and inclusive programmes:

- Providing a gender-responsive incentive system for TVET teachers and trainers,
- Including all gender identities in non-traditional occupations,
- Involving all gender of teachers and trainers in emerging sectors (e.g. ICT, green jobs).

6. Employing flexible, student-centred training methods to address learning needs for diverse individuals:

- Promoting inclusive training for people with disabilities and changing attitudes,
- Providing additional support for those with specific training needs (e.g. learning styles, accommodation, financial support),
- Targeting teacher training in crisis-affected populations towards income generation and portability of skills,
- Developing an incentive system for teachers in rural areas.

Pillar Three: “Innovation and Progress” – key elements

7. Adapting to emerging technologies and innovations in the workplace:

- Exposing TVET teachers & trainers to latest information and communication technologies (ICT/Digitalization/Industry 4.0),
- Preparing TVET teachers and trainers to use emerging technologies in classrooms and workshops,
- Providing spaces in CPD for TVET teachers & trainers which will allow them to regularly upgrade their technology skills.

8. Integrating pedagogical innovations in skills development:

- *Supporting TVET teachers moving from being “mere lecturers” towards becoming “facilitators of learning processes”,*
- Experimenting with new and innovative teaching methods in TVET teaching,
- Learning how to teach specific groups (disabled, migrant workers, people in rural areas) with new participatory teaching methods.

9. Focusing on core skills/competences of TVET teachers and trainers:

- Providing practical, technical, pedagogical and academic skills sets to TVET teachers & trainers that directly respond to their field of work (e.g. subject didactics),
- Allowing for teacher training programmes, in which skills are transferable across content areas and contexts,
- Anticipating skills needs for TVET teachers & trainers on an ongoing basis and adapting these programmes for technological, societal and other changes.

Pillar Four: “Representation and Communication” – key elements

10. Establishing venues for dialogue among social partners “on” and “in” TVET teacher training:

- Using sectoral-level social dialogue mechanisms to help align TVET provisions with labour market needs,
- Establishing social dialogue mechanism in TVET on school boards and with private employers, teacher unions and parents,

- Granting more ownership to teachers, trainers and directors in TVET and creating a sense of ownership of decisions.

11. Raising awareness among TVET teachers and trainers about labour market inequalities and their own labour rights:

- Providing training programmes for teachers on understanding labour market information,
- Including workers' organizations, parents' associations, youth groups and other community groups – allowing for addressing their concerns,
- Combining different elements in teacher training policies and including elements addressing aspects of decent work deficits, such as remuneration, tenure and other working conditions.

12. Developing networks for knowledge-sharing among TVET teachers and trainers:

- Utilizing online discussion forums and e-learning courses to improve and increase access to relevant resources and professional development,
- Making available information on national, regional and local resources for knowledge-sharing (newsletter, other media channels),
- Facilitate exchange of ideas and creation of communities of practice,
- Sharing knowledge in networks.

One of the essentials of the 12 parameters is a demonstration that TVET teachers & trainers possess *both technical and vocational knowledge and vocational pedagogical capabilities to cover manifold requirements. The key message of the 12 parameters is that TVET teacher training programmes (pre- and in-service) must cover strong subject-related knowledge and achieve the highest possible standard in teaching work.*



TVET teacher training programmes must cover strong subject-related knowledge and achieve the highest possible standard in teaching work.

Finally, students have to be prepared for employment in specific occupations or occupational areas.⁵ Main tasks/areas for teachers are (cf. ILO 2012 and ISCO-08):

- Teaching in vocational pedagogy and didactics,
- Teaching in vocational disciplines,
- Professional communication (with students, teachers, employers, etc.),
- TVET management and administration, counselling, vocational guidance,
- Presenting lectures and conducting discussions to increase students' knowledge and competence within the vocational context,
- Determining training needs of students and liaising with individuals, industry and other education sectors to ensure provision of relevant education and training programmes,

⁵ ISCO-08: International Standard Classification of Occupations; <https://www.ilo.org/public/english/bureau/stat/isco/isco08/>; ILO 2012, p. 139 f.

- Developing curricula,
- Planning course content and methods of instruction,
- Instructing and monitoring students in the use of tools, equipment and materials and the prevention of injury and damage,
- Observing and evaluating students' work to determine progress, provide feedback, and make suggestions for improvement,
- Administering oral, written or performance tests to measure progress, evaluate training effectiveness and assess competency,
- Preparing reports and maintaining records such as student grades, attendance rolls, and training activity details,
- Supervising independent or group projects, field placements, laboratory work, or other training,
- Providing individualized instruction and tutorial or remedial instruction,
- Conducting on-the-job training sessions to teach and demonstrate principles, techniques, procedures, or methods of designated subjects.

The description of the areas of work for teachers of vocational education fits with the requirements and idea of a TVET teacher as an “integrated teacher profile” (see footnote 3). Teaching and education, planning, evaluation and assessment and support of innovation are core competence areas of the work of teachers related to vocational pedagogy, vocational didactics and vocational disciplines. Standard for TVET teachers have to consider these areas.

5.2 VOCATIONAL DISCIPLINES AS SUBJECT AREAS FOR TVET TEACHERS



The term vocational discipline is normally used in the area of TVET to clarify the specific learning area and related learning needs for the world of work.

The development of TVET teacher competences are linked deeply to the study areas of vocational teachers differentiated along the vocational disciplines and based on the above-mentioned competence areas. One central point is that TVET teachers need a “double subject reference” (Spöttl 2014; KMK 2019b, p. 6), a reference to the occupations in a vocational area as subjects⁶ and to the corresponding vocational scientific discipline. This double subject reference is essential for TVET teacher training (developing occupational competence and specific teaching competence) as well as for the TVET teacher profession (determining the content and methodology of learning as typical teacher tasks). The following definition should clarify the meaning of a vocational discipline (see also Figure 1).

⁶ That means that the occupation as subject should be one focus for teacher competences and competence development. Mastering the tasks in an occupation requires knowledge, skills and abilities which are not coming only from the area of scientific disciplines or especially from technology. We call it “work process knowledge” (Boreham/Samurcay/Fischer 2002) as an important competence orientation for TVET teachers.

VOCATIONAL DISCIPLINE (FORMAL DEFINITION):

Area to be studied by TVET teacher students in order to develop relevant teacher competences to teach occupational subjects in a particular occupational field.

Scientific subject for the clarification of the theory of occupations/occupational competence and the contents of teaching.

VOCATIONAL DISCIPLINE IS

- ... a theory of occupations for university demand (research) (Pahl 2014, p. 25),
- ... linked to occupational domains/occupations in an occupational field. The Hangzhou-declaration (UNESCO 2004) provides a catalogue of twelve vocational disciplines which represents the occupational domains in which vocational education takes place,
- ... scientific-based “occupational subject”,
- ... in this sense a combination of occupational science (which identifies the content of professional knowledge and skills for mastering work processes and work tasks in an occupation/occupational competence; see Becker/Spöttl/Windelband 2019, p. 6) and vocational didactics (which answer the question of the relevant content and methodology for teaching),
- ... divided into four relevant areas of responsibility for which TVET teachers have to perform in the sense of *analysis*, *design* and *evaluation* of:
 - » occupations in an occupational domain,
 - » vocational learning, education and qualification processes,
 - » professional work and business processes,
 - » technology as the subject of work and learning processes,in their historical developments, their current manifestations and their future perspectives (see gtw 2010, p. 10).
- ... the field of specialization of teaching in the area of VET.

The term vocational discipline is normally used in the area of TVET to clarify the specific learning area and related learning needs for the world of work. Because of the close linkage between the occupational subject and the vocational didactic as parts of a vocational discipline, sometimes the term “vocational discipline and their didactics” is used. For a more in-depth discussion see the explanations in Zhao/Rauner (2014).

VOCATIONAL DISCIPLINE

Analysis, design and evaluation of

- occupations in a occupational domain
- vocational learning, education and qualification processes
- professional work and business processes
- technology as the subject of work and learning processes

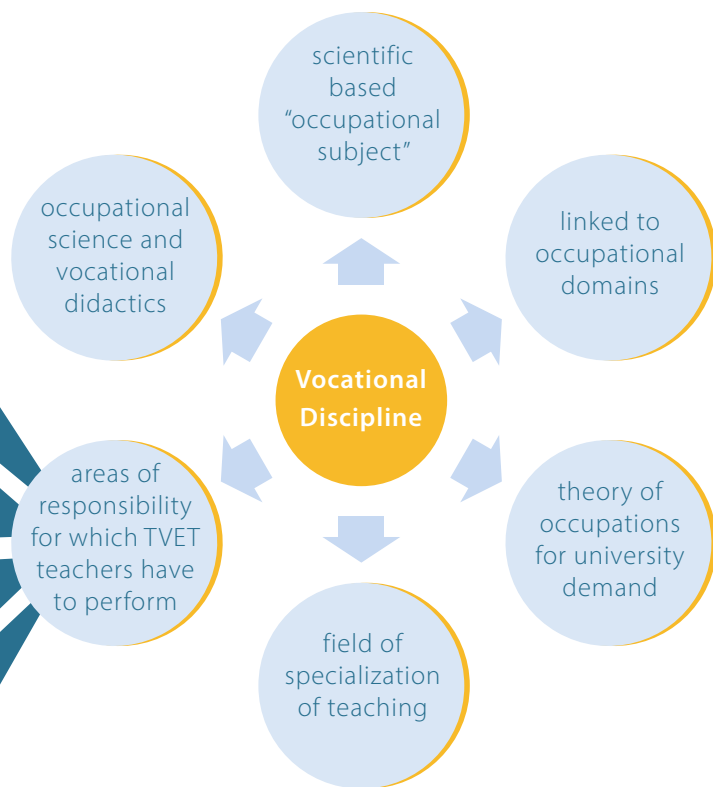


Figure 1: Definition of Vocational Disciplines

For the vocational scientific disciplines, UNEVOC (cf. UNESCO 2004, p. 15) defines 12 subject areas which are listed below:

- Business and Administration
- Production and Manufacturing
- Civil Engineering
- Electrical and Electronic Engineering and Information and Communication Technology
- Process Engineering and Energy
- Health Care and Social Care
- Education and Culture
- Leisure, Travel and Tourism Agriculture, Food and Nutrition
- Media and Information
- Textile and Design
- Mining and Natural Resources

In this recommendation “Vehicle Technology/Automotive” is integrated with “Production and Manufacturing”. Due to the growing importance of the automotive area, this discipline should be added to the list. Likewise, the area of “Information and Communication Technology” should be listed as a separate discipline.

5.3 OCCUPATIONAL PROFILE OF A TVET TEACHER

In general terms, the occupational profile of a TVET teacher can be described as a professional in vocational education and training processes in an occupational field. TVET teachers can plan, carry through, evaluate and improve teaching and learning processes in such a way that learners will develop occupational competence in occupational action fields within vocational disciplines.

A TVET teacher has to be a professional in vocational education and training processes in the jobs to be trained. TVET teachers can plan, carry through, evaluate and improve teaching and learning processes to ensure learners will develop occupational competences.

Fully qualified TVET teachers should be able to teach on theoretical and practical lessons as well as to carry out also research-oriented tasks.

For a TVET teacher profile with largely developed competences described in this standard, we use the term “Fully Qualified Teachers”.

A TVET teacher profile demands not only personal and social, pedagogy and technical competence but also a **holistic competence profile** with a visible interlinkage between personal and social competences, competences in the vocational discipline and competences in vocational pedagogy and didactics. We describe such a TVET teacher profile in two areas (Personal and Social/Vocational), which clearly underlines the interlinkages and the claim on innovation of TVET.

In AMS, different types of TVET teachers are available with a wide variety of education pathways, levels of qualification and a very different focus on practical training or theoretical lessons. Euler (2018, p. 13) has described four different TVET teacher types based on the findings of Parsons et al. (2009, p. 79):

1. *General teachers with a focus on general education subjects,*
2. *TVET school teachers with a focus on theoretical knowledge,*
3. *Trainers and instructors with a focus on practical exercises,*
4. *In-company trainers with a focus on training and work-based learning in companies.*

General teachers – teachers for basic or general education subjects within TVET schools – and *In-company trainers* are not described in the framework of RTTS. For TVET teachers with an integrated TVET teacher profile, the following two TVET teacher types are relevant:

1. *Semi-qualified TVET teachers with a focus on theoretical and practical lessons (some of the described competences in the competence areas are not or not fully developed),*
2. *Fully qualified TVET teachers with a focus on theoretical and practical lessons.*

The *Regional TVET Teacher Standard* describes an integrated TVET teacher profile of a fully qualified teacher. Other profiles can also be described with the help of the named competences of this standard. However (e.g. semi-qualified TVET teachers), they lack some of the competences or specific competences

are not fully developed. Fully qualified teachers should be able in particular to carry out also research-oriented tasks and are allocated to level 7 of the AQRF. TVET Researchers normally are allocated to level 8 of the AQRF.

AQRF-Level

8	TVET Researcher
7	"Fully qualified TVET Teacher" RTTS
6	Semi qualified TVET Teacher
5	Trainer and Instructor

Figure 2: Level and TVET Teacher Type of the Regional TVET Teacher Standard

The term TVET teacher used in this paper refers to a "Fully Qualified Teacher".

5.3.1 PROMOTING THE QUALITY OF LEARNING

TVET teachers are able to:

- Shape the curriculum contents for the occupations both theoretically and practically as an object of learning, and
- Prepare curriculum contents in such a way that students at different levels are supported to develop occupational competence and become motivated to reflect practical and theoretical contexts.

Both tasks require TVET teachers to be capable of planning and implementing a teaching and learning process. Therefore, they must be able to:

- Plan, structure and assess learning contents related to a concrete corporate work situation within an occupational action field, and
- Master the didactical and methodological shaping of teaching and learning processes.

TVET teachers must be able to analyse the requirements for work and to reflect these requirements for their shaping of learning processes. The teaching staff must also have the competence to evaluate the outcomes.

5.3.2 OVERALL COMPETENCES OF TVET TEACHERS

Each TVET teacher needs to gain access to the students and their requirements. To reach this aim TVET teachers are able to:

- analyse learning at TVET institutions and learning based on the requirements of work, learning that is taking place during a defined timeframe,
- apply various pedagogical-didactical approaches and concepts,
- act in an adequate pedagogical way within the organization and development of TVET centres,

training institutes, and colleges,

- cooperate with colleagues and companies,
- promote the development of an occupation-related identity of the students,
- adhere to legal issues,
- identify and eliminate possible personal needs for own further training if required,
- bear in mind “holistic acting” based on the company-related requirements for the students.

5.3.3 SPECIFIC COMPETENCES OF TVET TEACHERS

The contents of the work of TVET teachers concentrate on planning, implementation, and evaluation/assessment of one’s own teaching against the background of existing framework conditions. Thus TVET teachers are able to:

- analyse occupational profiles, curricula and corporate requirements and shape pedagogical processes (objectives for competence development, selection of relevant contents, structuration of the approach according to factual, process-related and didactical considerations with the aim to develop competence in trainees/students in different learning environments),
- perceive the changing world of work including technological novelties and procedures of work and business processes in industrial companies and other sectors,
- analyse the work processes in companies and interlink them among others with elements of cooperation from learning environments and through the shaping of adequate learning tasks etc. with occupational learning processes. They also promote the understanding of the processes and their special contents and the learners’ capability to reflect their own ways of acting,
- coordinate the planning of instruction with the aims and themes of the curricula. They plan the use of methods and media in the existing learning and work environments. The individual needs of the students in their specific conditions (e.g. family and social situation, physical disposition, creation of classes) will form part of lesson planning,
- prepare the students for their future occupational work by selecting adequate learn and work assignments for them. Thus teachers inspire the students for technology and problem solving during practical work in their occupation as well as for their chosen occupational training,
- promote self-organized and cooperative learning by applying student- and acting-oriented teaching methods and media,
- consider differences among students (heterogeneous learning groups) through the choice of instruction methodology (e.g. creation of differentiated learning groups with different objectives for the support of “weaker” students by “high performers”). The use of suitable media and digitalisation should be considered,
- plan the systematic development of specialist, social and human competences and promote the development of reflective-meta-cognitive competences as well as the relevant methodological competences,
- combine practical and theoretical learning lessons in workshops and in other learning environments,
- promote the development of occupational acting competence by accessing specialist

interrelationships and complexity. They support students and their learning processes in order to enable them to make sound decisions in all occupational challenges with which they are confronted,

- develop and implement a balanced, indicator-related assessment of performance in order to guarantee the individual promotion of students,
- attach great importance to mutual respect, tolerance and empathy,
- act as a role model due to the integration of specialised integrity and responsible pedagogical acting.

A link to the industrial and labour market is important within teacher education at universities. After graduation, TVET teachers have to be able to act competently in their own professional field (education and training). They also have to be accepted on the teacher and trainer labour market (vocational schools and other TVET providers) and have to be able to cooperate with industries in the planning and implementation of TVET.

Teachers who meet all these requirements are called “Fully Qualified Teachers”. A specific TVET teacher profile for the example of the vocational disciplines “Automotive” might be described as follows (see KMK 2019b, p. 94 f.):

COMPETENCE PROFILE OF A TVET TEACHER IN THE VOCATIONAL DISCIPLINE “AUTOMOTIVE”

The graduates have scientific technical and didactic competences. Their well-founded and contextualised scientific and didactic knowledge in the field of automotive engineering, including the respective relevant ecological, economic, social and ethical aspects, enables them to plan, perform, analyse and reflect on occupational field-specific teaching and learning processes. Graduates have the ability to identify and incorporate new developments in the relevant occupational context and to take them into account independently in the design of career-related curricula, educational programmes, and career-based education.

The graduates:

- have a well-grounded knowledge of the subject related to education and technical knowledge, complex and scientifically based knowledge of work and occupation as well as their concepts of reference such as qualification, competence and knowledge of didactic theories and concepts and can apply this flexibly in different professional application contexts,
- are able to apply scientific methods for dealing with disciplinary and interdisciplinary questions and to analyse and evaluate corresponding findings,
- can investigate business and work processes in the occupational fields of service, repair, diagnostics, upgrading, and the manufacture and repair of vehicle technology using scientific methods,
- are able to receive research results for the analysis of technology, work and education, to use them in didactic contexts and to contribute them to the further development of didactic and curricular theories and concepts,
- enable the planning and organization of vocational education and training processes based on technical and didactic knowledge, the diagnosis of learning conditions and the handling of heterogeneity as well as the knowledge of the connections between vehicle technology, professional work and vocational training and the requirements of external partners (“responsible bodies” and companies),

- can collaborate with specially trained teachers and other educational staff on the planning and design of inclusive education, and develop professional learning opportunities with them, in line with the didactic level of research,
- have primary experience in the planning, implementation and evaluation of competence-promoting instruction in the field of automotive occupations and other vehicle engineering courses,
- are able to independently initiate, accompany and reflect on action-oriented learning processes in cooperation with other teachers as well as to develop concepts of inclusive teaching,
- are able to further develop teaching, curricula and the school in the social, economic and environmental responsibility of the institutions involved in vocational education and training in terms of the educational goal of co-design and networking of the working world and society,
- cooperate with specially trained teachers and other educational staff on the planning and design of inclusive education, and develop professional instruction with them,
- use new developments in digitalisation of vocational work areas and regarding VET areas in a way that reflects the didactic contexts and adequately develops teaching and curricular concepts. They are sensitised to the opportunities of digital learning media with regard to accessibility and use digital media also for differentiation and individual support in the classroom.

6

CHARACTERISTICS OF THE REGIONAL TVET TEACHER STANDARD FOR ASEAN AND RECOMMENDATIONS FOR QUALIFICATION



6. CHARACTERISTICS OF THE REGIONAL TVET TEACHER STANDARD AND RECOMMENDATIONS FOR QUALIFICATION

A standard is an expected quality in an educational system that is commonly referred to and well known but not mandatory for all cases in one region.

The term “standard” is the object of many modern discourses in the context of education⁷. The literature states that there is a global movement towards a standardization of education; however, as with many international trends, the origins and definitions vary within each country and system.

The *Regional TVET Teacher Standard* in its current form can be best understood as a voluntary guideline for AMS to improve TVET teacher education. According to a classification of standards, it can be seen as a **norm**⁸. Bergmann and Mulkeen (2011) refer to a **norm as an expected quality in an educational system that is commonly referred to and well known but not mandatory for all cases in one region**. As mentioned above, the **vision** for the standard as a **long-term objective** is the development of a **binding standard such as a common framework curriculum for TVET teacher education**.

In order to operationalize the standard further and more precisely, the regional working group has developed a **set of characteristics** in terms of expected **output and outcome** of teacher education specifying the nature of the standard and indicating the direction for further TVET teacher education. Furthermore, some crucial **recommendations for teacher qualification** have been named and elaborated to establish a common and comparable quality of TVET teachers. These recommendations can be understood as **input** factors and necessary elements of a teacher education **process** to be reached.

THE REGIONAL TVET TEACHER STANDARD FOR ASEAN (RTTS) IS

- a norm in that it is understood as “an accepted standard or a way of behaving or doing things that most people agree with” (Cambridge Dictionary),
- an orientation for TVET Systems to organize teacher education so that expected TVET teachers’ competences will be reached,
- a framework of descriptions which will help to install suitable teacher education programmes and to orientate curricula for TVET teacher education on future oriented concepts.

⁷ Compare also for example: Toledo-Figueroa et al. (2017), Bergmann/Mulkeen (2011).

⁸ The classification for standards can be separated into three different meanings, which consist of (1) a standard as a norm, (2) a standard as a requirement, or (3) a standard as a quality measuring tool (Bergmann/Mulkeen 2011).

The RTTS is not a compulsory set of requirements for AMS to fulfil in their national TVET systems. The RTTS also presupposes several conditions which are not included in the descriptions below.

CHARACTERISTICS AND RECOMMENDATIONS FOR QUALIFICATIONS AT A GLANCE

There are **three characteristics** that define the nature of the standard:

- **Degree:** Master’s degree/AQRF 7,
- **Teaching certificate:** Students in the area of TVET until post-secondary,
- **Ability and Orientation:** Occupational Competence.

The character of the three characteristics is shown in Figure 3.

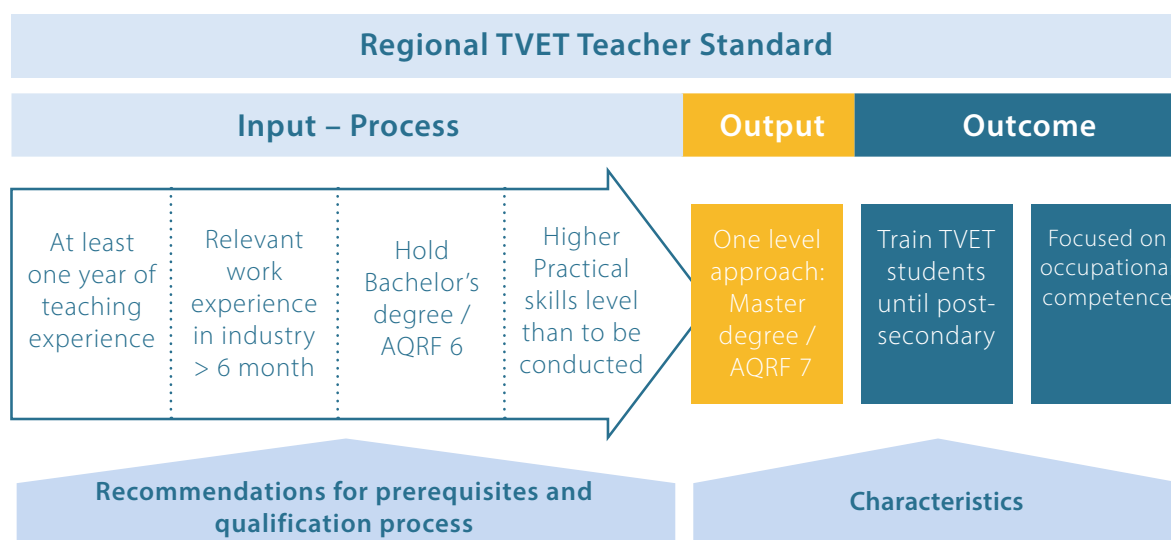


Figure 3: Input, Process, Output and Outcome for a Fully Qualified TVET Teacher

(1) DEGREE: ONE-LEVEL APPROACH

The *Regional TVET Teacher Standard* consist of a comprehensive profile and prerequisites to become a qualified TVET teacher to conduct TVET programmes. Conducting education and training at all TVET levels – see AQRF – requires fully qualified teachers in order to be able to react to all pedagogical challenges and to guarantee the best education and training results for the benefit of the students and trainees. That means that fully qualified teachers with an occupational profile described in Chapter 5 should hold a degree equivalent to AQRF 7.

(2) TEACHING CERTIFICATE: POST-SECONDARY

With new technologies entering the world of work leading to more complex work processes, the demand for a highly skilled workforce will increase significantly. Therefore, more post-secondary TVET programmes will be developed in the future. A TVET teacher qualified on the basis of this regional standard is prepared to conduct programmes up to post-secondary level (accordingly AQRF level 5).

(3) ABILITY AND ORIENTATION: OCCUPATIONAL COMPETENCE

The different tasks that constitute an occupation generally belong to complex demand-orientated and required abilities for specific ongoing work processes. Occupational competence is therefore defined as the ability or the resources to adapt and perform difficult activities within the range of the same occupation. These competences can, for example, include basic skills, such as problem solving or communication, key skills and specific technical skills referring to the respective occupation (OECD 2017). The goal of the TVET teacher education is to enable future TVET teachers to teach and train TVET students to carry out complete work processes in a professional manner. Employment-relevant training can only be successful if it is carried out in an authentic work environment while dealing with real customers. This is how occupational competence can be developed. Simulation of work processes in TVET schools will fail if carried out by TVET teachers who have never been actively involved in a current business environment. This indicates a contextual division of theory and practice following the logic of learning solutions which reflect realistic tasks and challenges from the world of work. Accordingly, obtaining occupational competence is a crucial point for TVET teachers.

FOUR RECOMMENDATION FOR TVET TEACHER QUALIFICATIONS

Additionally, there are four recommendations for TVET teacher qualifications that need to be specified based on national requirements and national discussions. All four requirements are important for a highly skilled and motivated TVET teacher:

1. PRACTICAL SKILLS LEVEL

A TVET teacher is required to possess a relevant national skills certificate which is higher than the skills level being taught in the TVET programme. This is necessary to prove TVET teachers proficiency in the occupational area. If there is no skills level system in place, a future TVET teacher has to prove that they have the necessary practical skills. Being proficient in a certain occupational area is a key requirement for TVET teachers all over ASEAN.

2. BACHELOR'S DEGREE

The Regional TVET teacher standard aims for TVET teachers to have at least obtained a Bachelor's degree for – semi-qualified TVET teachers – either in a subject discipline-related programme, in vocational pedagogy or in a vocational discipline/occupational area combined with vocational pedagogy and didactics. The Bachelor's degree is an entrance requirement for programmes which deliver fully qualified teachers (see Characteristic (1)). A professional TVET teacher's education has to take place at university and they must have earned a Bachelor's degree at least. Generally there are two different academic pathways for TVET teacher education as laid out in Box 1: *Parallel* or *top-up* based on a subject discipline-related programme (e.g. engineering discipline) or based on a vocational discipline programme with didactical and pedagogy elements⁹.

⁹ Example: The "Master in Technical and Vocational Education" at Universiti Tun Hussein Onn Malaysia (UTHM) requires a bachelor degree as an entrance requirement (<https://www.studymalaysia.com/what/course/uthm/0004764>).

The bachelor programme can be a TVET programme (e.g. Bachelor of Vocational Education (Multimedia Creative) (Hons); see <https://studymalaysia.com/what/course/uthm/0054797/>) or an engineering programme.

3. INDUSTRY EXPERIENCE

Since most modern occupations involve practical work experience as much as theoretical background knowledge, a TVET teacher has to be able to combine these two aspects. The need for relevant industry work experience in the respective occupational field is important, in order to be able to provide a realistic learning environment, tasks and learning situations for the TVET students. This will help to prepare the students for working in a company and complement their mostly school-based education. There are a number of options for gaining industry experience: (a) A full traineeship over at least 2-3 years before becoming a teacher can be crucial in strengthening the quality and impact that the TVET teacher will have later on; (b) a 6-9 months internship can further support the competences of a TVET teacher as well as increase gender diversity practical skills so that the TVET teacher will get used to the teaching and learning situations; (c) another option could be an internship in the industry while working as a teacher since this will maintain the linkage between theory and practice for the TVET teacher; (d) an internship in a production school; (e) an internship in a research institution; and lastly (f) an internship in the industry with a sophisticated labour organization will additionally support leadership, management and organizational competences (Lipsmeier 2013). A total of at least 6 months of industry experience is required.

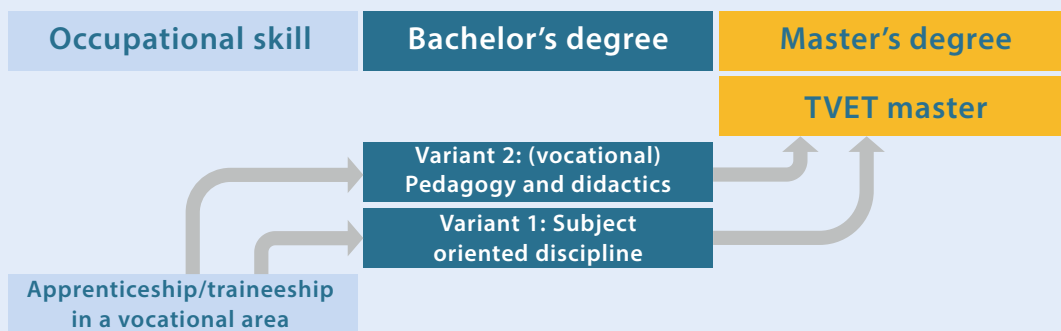
4. TEACHING EXPERIENCE

It is recommended that any TVET teacher has at least one year of mentored teaching experience, which may include observation, internships, teaching practice, student teaching and/or assisted teaching. These experiences should be reflected in the entire teaching process, including lesson preparation, teaching and evaluation. A mentoring and supervision programme¹⁰ should come with these experiences. The process should be mentored, monitored and supervised, with regular feedback from experienced teachers (mentors) in order to provide the teacher candidate with the practical tools and experience needed for the occupation.

¹⁰ Different kind of programmes are available in In ASEAN countries (see Paryono 2015).

BOX 1: ACADEMIC PATHWAYS FOR TVET TEACHERS

The **top-up model** is aimed at TVET teacher candidates who already hold a degree or a certificate (apprenticeship/traineeship) in a specific vocational work area as well as a Bachelor's degree (variant 1 or 2). Students with occupational competences – holding a certificate – are able to provide hands-on working experience in the respective industrial working environment. After a Bachelor's programme, a TVET teacher candidate will be able to access the Master's TVET teacher education programme primarily to gain knowledge in the area of *Vocational Discipline, Didactics and Pedagogy* of the teaching profession, since the occupational skills and the subject-related discipline (variant 1) do not need to be taught again. A type 2 Bachelor's programme with a focus on pedagogy needs a deepening of discipline-oriented competence within the TVET master programme while a type 1 Bachelor's programme needs a deepening of vocational pedagogy and didactics competence within the Master's programme.

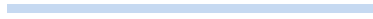


The **parallel model** is aimed at TVET teacher candidates who do not hold specific qualifications in a respective occupational work field before starting a Bachelor's degree programme. This pathway can also be referred to as a double programme, since the TVET teacher candidate is supposed to learn the occupational skillset and competences whilst simultaneously learning about the specific vocational discipline, didactics and pedagogy.

Although these models vary mostly in relation to the timeline of when the needed competences are being taught, the end result of the two pathways is supposed to be the same qualification. Gaining personal and social competences is, for a TVET teacher, an ongoing learning and personal development process that is equally present in both models.



STRUCTURE OF THE REGIONAL TVET TEACHER STANDARD FOR ASEAN



7. STRUCTURE OF THE REGIONAL TVET TEACHER STANDARD FOR ASEAN

The result of the discussion in Chapters 5 and 6 is that TVET teachers need a close interlinkage between different competence areas. On the one hand, they need vocational competences (related to a technical vocational discipline); on the other hand, they need personal, social and occupational competences as well as pedagogical and especially methodological and didactical competences on a scientific reflected level (see Figure 4).

The development of these competences and – of course – the capability of the TVET teachers to perform as part of their duties requires a combination and reference between all named competence areas and especially between the dimensions “vocational pedagogy” and the vocational discipline as a “subject matter”. In general education, the **subject matter** is defined with the help of general scientific disciplines like biology for a biology teacher or technology for a technology teacher. In contrast to this, the subject of a TVET teacher in the area of TVET is one with a “double subject reference” (see section 5.2) which means that vocational disciplines and referencing occupations are defining the subject matter.



Figure 4: Relevant Areas for the Regional TVET Teacher Standard (RTTS)

The **pedagogical** dimension in TVET should be understood as a bridge between areas of responsibility for identification, preparation and implementation of work (coming from the occupational work tasks) and learning content and processes (Figure 4). This bridge (expressed through the term “vocational”) ensures occupational teaching and learning and makes clear that this kind of teaching is sometimes fundamentally different from teaching general subjects. In this context, the special significance of vocational learning processes is to secure a vocational ability to support the learners in the working world.

In further consideration of the competences discussed in Chapter 5, it is a challenge to differentiate between competence areas and at the same time to combine and integrate them as a standard. Since competences in reality are not separated from each other, but they are identifiable as **outcomes** in terms of performance in the context of tasks, the outcome standard is described as **competences for teachers**. These outcome standards will complete the expected **output** and the recommendations for the **process** and **input** described in Chapter 6.

The RTTS consists of two holistic competence areas described as TVET teacher tasks:

- 1. Personal and Social Competences**, which describe the competences of a TVET teacher to become acquainted with the TVET school as an institution, with the underlying system and personal attitudes for a constantly further developing of own skills and competences.
- 2. Vocational Research, Discipline, Didactics, Pedagogical and Management Competences** which describe the competences for identification, preparation and implementation of teaching with a focus on occupations in the vocational field and based on competences in a vocational discipline (for more detail, see the tables below). It consists of several categories or setting of priorities:
 - a. Vocational Research:** Competences of TVET teachers for determining occupational competence requirements, developments of the occupations and teaching requirements.
 - b. Vocational Discipline:** Competences of TVET teachers for analysing the occupational subject (Manufacturing, Automotive, ...) and the referred requirements and changes in the world of work.
 - c. Vocational Didactics:** Competences of TVET teachers to choose and structure relevant contents and methods for supporting vocational learning processes.
 - d. Vocational Pedagogy:** Competences of TVET teachers for planning, carrying through and assessment of learning sessions.
 - e. Vocational Management:** Competences of TVET teachers for organizing and further developing vocational schools and vocational education programmes.

Each of the named categories has links to adjacent categories. Therefore, TVET teacher's competences can be named and located between two categories (see table below). Assignments can be recognised by their proximity to the respective category.

Vocational Research	Determine occupational competence requirements	Derive respective learning efforts and training needs	Vocational Discipline
Vocational Discipline	Analyze technology and its meaning for learning in the context of organization, methods, tools, equipment and materials in the world of work	Analyze the requirements of technology and the changing work and develop strategies or modes for learning in different learning environments	Vocational Didactics
	Develop curricula for TVET at school level and participation at national level	Analyze didactical approaches and evaluate their use for learning in the context of digital technology and changes of work and work organization	
Vocational Didactics	Design learning sessions through use of innovative teaching methods to open up the complexity of work	Develop school-based curricula, syllabus and learning material for use in innovative teaching	Vocational Pedagogy
	Plan theoretical and practical lessons in classrooms and workshops	Carrying through learning sessions to support competence development of learners	
		Carry out assessments and evaluations of the learner's occupational competence	
Vocational Pedagogy	Accompany students' competence development reflecting the competence development level, living environment and individual learning conditions	Shape the learning and school culture and further develop the school environment to encourage lifelong learning	Vocational Management
	Improve learning and interaction processes by choosing and developing suitable methods	Shape and manage learn and work environments	

Regional TVET Teacher Standard for ASEAN				
Areas	Competences			
Personal and Social	<p>P1: Demonstrate the dignity, culture, values, beliefs and rights of individuals/groups nationally and in ASEAN region.</p> <p>P5: Perform with their colleagues in teams to enhance TVET delivery and school development.</p>	<p>P2: Plan and implement professional development to enhance TVET teacher skills, knowledge and attitudes towards lifelong learning.</p> <p>P6: Set goals for challenges and establish a safe and stimulating environment for students, rooted in mutual respect.</p>	<p>P3: Utilize entrepreneurial and soft skills in the learning environment.</p> <p>P7: Promote green skills and sustainability in the learning environment.</p>	<p>P4: Identify and apply laws and regulations of educational institutions and act according to youth and young adult legislations.</p>
	Vocational <ul style="list-style-type: none"> • Research, • Discipline, • Didactics, • Pedagogy, • Management 	<p>V1: Analyze the requirements of technology and the changing work and deliver strategies or modes for learning in different learning environments.</p> <p>V5: Design learning sessions through use of innovative teaching methods to open up the complexity of work.</p> <p>V9: Carry out assessments and evaluations of the learner's occupational competence.</p> <p>V13: Shape the learning and school culture and further develop of the school environment to encourage lifelong learning.</p>	<p>V2: Determine occupational competence requirements and respective learning efforts and training needs of students.</p> <p>V6: Develop lesson plans, syllabus and learning material.</p> <p>V10: Accompany students' competence development reflecting the competence development level, living environment and individual learning conditions.</p> <p>V14: Develop curricula for TVET at school level and participation at national level.</p>	<p>V3: Analyze technology and its meaning for learning in the context of organization, methods, tools, equipment and materials in the world of work.</p> <p>V7: Plan theoretical and practical lessons in classrooms, workshops and industrial workplaces.</p> <p>V11: Improve learning and interaction processes by choosing and developing suitable methods.</p>

Figure 5: Summarized Areas and Related Competences of the Regional TVET Teacher Standard for Asean

Area 1: Personal and Social Competence

The **Personal and Social Area** deals with the role of a TVET teacher in the environment of the TVET institute and within the educational system: It describes the competences of a TVET teacher to become acquainted with the school as an institution and the underlying system. Particularly for teachers at vocational schools, it is essential to remain well-informed about scientific, economic, technological, and educational developments. Pedagogical training encourages the willingness of TVET teachers to constantly develop their skills and competences by means of appropriate training and further education opportunities. This implies that in addition to developing high-quality TVET courses, TVET teachers are required to get to know the framework, conditions, and opportunities for **school development**, as well as the need for permanent **cooperation with colleagues, partner companies** and the examination boards or other external training facilities and institutions. Moreover, this component describes the teacher's ability to communicate, to act empathically and to utilize soft skills, 21st century skills and green skills in the learning environment.

COMPETENCES

TVET teachers ...

- P1:** Demonstrate the dignity, culture, values, beliefs and rights of individuals/groups nationally and in the ASEAN region
- P2:** Plan and implement professional development to enhance TVET teacher skills, knowledge and attitudes towards lifelong learning
- P3:** Utilize entrepreneurial and soft skills in the learning environment
- P4:** Identify and apply laws and regulations of educational institutions (e.g. schools) and act according to youth and young adult legislation
- P5:** Perform with their colleagues in teams to enhance TVET delivery and school development.
- P6:** Set goals for challenges and establish a safe and stimulating environment for students, rooted in mutual respect
- P7:** Promote green skills and sustainability in the learning environment

Area 2: Vocational Research, Discipline, Didactics, Pedagogy and Management

The **Vocational Area** describes the competences for the core task of TVET teachers: teaching with a focus on occupations in the vocational field and based on competences in a vocational discipline. This means that after the TVET teacher training, the whole teaching process can be managed in a way that is situation- and student-appropriate according to the requirements of nationally and regionally diverse TVET school systems. This requires a comprehensive understanding of the world of work, the competences of the professions taught as well as didactic and methodological tools, which meet the particular teaching situation according to the requirements of core curricula. The mastery and use of modern media and technology also belong within this context. The Regional TVET Teacher Standard encourages the application of effective qualification strategies. This means that TVET teachers can analyse work processes and technology to determine their meaning for competence development and shaping of learning processes. Shaping competence is necessary for recurrent phases of reflection and self-evaluation of teaching processes to improve teaching concepts, teaching plans and teaching implementation. The aim is not to restrict or define behavioural patterns early on, but to create open-mindedness towards new ways of supporting competence development and to practise new methods. Furthermore, the learning environment has to be developed and new developments in society, technology and work organization should be identified and analysed. Changes in subject-didactical approaches, education plans, school-based curricula and practical applications of training have to be considered and shaped by TVET teachers. In this context, the latest occupational and teaching and learning research outcomes will be included, as well as the respective resulting impulses and consequences for the design of adequate teaching and learning arrangements.

COMPETENCES

TVET teachers ...

- V1:** Analyse the requirements of technology and the changing work and deliver strategies or modes for learning in different learning environments
- V2:** Determine occupational competence requirements and respective learning efforts and training needs of students
- V3:** Analyse technology and its meaning for learning in the context of organization, methods, tools, equipment and materials in the world of work
- V4:** Analyse didactical approaches and evaluate their use for learning in the context of digital technology and changes of work and work organization
- V5:** Design learning sessions through use of innovative teaching methods to open up the complexity of work
- V6:** Develop lesson plans, syllabus and learning material
- V7:** Plan theoretical and practical lessons in classrooms and workshops and industrial workplaces
- V8:** Carry through learning sessions to support competence development of learners

Area 2: Vocational Research, Discipline, Didactics, Pedagogy and Management

- V9:** Carry out assessments and evaluations of the learners occupational competence
- V10:** Accompany students' competence development reflecting the competence development level, living environment and individual learning conditions
- V11:** Improve learning and interaction processes by choosing and developing suitable methods
- V12:** Shape and manage learning and work environments and industrial workplaces
- V13:** Shape the learning and school culture and further develop the school environment to encourage lifelong learning
- V14:** Develop curricula for TVET at school level and participation at national level

ANNEX



ANNEX 1:

RELEVANT TVET TEACHER TASKS WITHIN THE REGIONAL STANDARD

Competence describes key areas of the professional work of a TVET teacher

TVET Teacher Task describes relevant “to do’s” for TVET teachers

1. COMPETENCE AREA – PERSONAL AND SOCIAL

Code	Competence	TVET Teacher Task
P1	Demonstrate the dignity, culture, values, beliefs, and rights of individuals/groups nationally and in the ASEAN region.	<ul style="list-style-type: none"> • Take action to respect individuals/groups regardless of race, culture, religion, age, gender, sexual preference, and physical or mental state. • Establish school and learning culture in which social values and standards based on traditions, religion and culture are known, reflected critically and communicated. • Conduct assessments which correspond to the needs of individuals/groups. • Ensure learning culture where the rights of others are recognised and accepted.
P2	Plan and implement professional development to enhance their skills, knowledge and attitudes towards lifelong learning.	<ul style="list-style-type: none"> • Identify and reflect professional development needs. • Look for additional knowledge and/or information when presented with unfamiliar situations. • Call for support from colleagues in identifying learning needs. • Document the involvement in professional development which includes both formal and informal activities. • Get involved as an active member of a teaching and/or professional organization. • Update professional knowledge and skills in the world of work regularly and continuously.
P3	Utilize entrepreneurial and soft skills in the learning environment.	<ul style="list-style-type: none"> • Recognize the value of their learning for their everyday and future lives and promote a positive attitude among students so that they can be successful. • Combine and consider social, economic and ecological aspects of entrepreneurship to support learners employability and independence.

Code	Competence	TVET Teacher Task
P4	Identify and apply laws and regulations of educational institutions (e.g. schools) and act according to youth and young adult legislation.	<ul style="list-style-type: none"> Analyse the given framework conditions for the daily work, discuss the conditions and possibilities for further development with colleagues and reflect the TVET teachers role and job profile at vocational schools. Treat all learners fairly and equally and respect the rights of every person. Respect the rights, privacy and confidentiality of students, parents and colleagues. Find solutions for dealing with complaints and administrative courts and discuss possible scenarios.
P5	Perform with their colleagues in teams to enhance TVET delivery and school development.	<ul style="list-style-type: none"> Identify personal work-related goals which are consistent with school policies and procedures in order to optimize teamwork at the TVET school. Implement procedures and strategies for establishing and maintaining ongoing communication and work effectively with relevant professionals from the business community, TVET teacher mentors and other personnel. Prioritize competing demands concerning the practical orientation of vocational training concerning personal, team and school objectives and consider timelines. Support staff at schools effectively and support tasks and responsibilities of TVET teachers. Act as responsible team leader and/or member.
P6	Set goals for challenges and establish a safe and stimulating environment for students, rooted in mutual respect.	<ul style="list-style-type: none"> Define challenges and innovations in relation to curricula and learning requirements. Identify and design a learner-friendly environment. Promote sustainable environments for students following the vision of the TVET centre and support the development of innovative competences. Implement plans and strategies to realise innovative concepts in school and learning environments.
P7	Promote green skills and sustainability in the learning environment	<ul style="list-style-type: none"> Apply sustainability principles like avoiding, compatibility, efficiency, reducing, separation, recycling, refabrication, reuse and disposal of waste in the learning and work environments. Integrate social, economic and ecologic aspects of professional work and teaching in pedagogical concepts as well as in everyday life. Take care of possibilities to support green activities, green jobs and the shaping of green occupational profiles. Respect principles of Corporate Social Responsibility (CSR) and international norms (like ISO 14001; ISO 26000, ISO 50001) in planning and carrying through teaching processes.

2. COMPETENCE AREA – VOCATIONAL DISCIPLINE, RESEARCH, DIDACTICS, PEDAGOGY AND MANAGEMENT

Code	Competence	TVET Teacher Task
V1	Analyse the requirements of technology and the changing work and deliver strategies or modes for learning in different learning environments	<ul style="list-style-type: none"> • Capability to identify technological developments in selected sectors and professional reflection on the needs of qualifications and competences in the vocational discipline related working fields. • Capability to identify changes of work, future work and professional reflection about the needs of qualification and competences related to certain vocational disciplines. • Creation of variable learning environments based on the changes of work organization and technology relevant in specific sectors. • Use/delivery of different learning modes and methods to support students in the adaption of the latest requirements relevant to certain disciplines. • Support students in the competence development process to develop the ability to work successfully within complex working environments in relevant sectors.
V2	Determine occupational competence requirements and respective learning efforts and training needs of students	<ul style="list-style-type: none"> • Identification of specific and broad occupational competence requirements in certain sectors of industry relevant to development. • Configuration of competence requirements under didactical aspects related to certain sectors and preparation of them for competence development. • Design of concepts of training needs to fulfil the requirements in the relevant sectors of the industry. • Open up learning strategies in relation to industry needs and the occupational competences in certain fields of requirements.
V3	Analyse technology and its meaning for learning in the context of organization, methods, tools, equipment and materials in the world of work	<ul style="list-style-type: none"> • Analysis of technical subjects of a vocational discipline to identify the relevance for learning and competence development. • Identification of the quality requirements of the technical subject of a vocational discipline related to the type of work organization, working tools and equipment used. • Analysis of the material in use in the specific vocational discipline and identification of the work requirements of daily and future work. • Clarification of requirements of learning in relation to a specific vocational discipline and pre-decisions on learning opportunities.

Code	Competence	TVET Teacher Task
V4	Analyse didactical approaches and evaluate their use for learning in the context of digital technology and changes of work and work organization	<ul style="list-style-type: none"> Analyses of selected didactical approaches and reflection of their potential for learning in selected technical fields and fields of digital technology. Identification of the most sophisticated learning and teaching approaches for specific requirements in the different vocational disciplines and the requirements of changes of work, work organization and digital technology. Creation of scenarios for learner-oriented teaching within vocational disciplines to give answers for teaching because of the changing work and technology.
V5	Design learning sessions through use of innovative teaching methods to open up the complexity of work (related to a vocational discipline)	<ul style="list-style-type: none"> Design of concepts of teaching oriented towards work processes in a vocational discipline and the actual work requirements. Motivation of learners to reflect and understand work practices. Development of learning methods for dealing with the complexity of work. Creation of learning concepts for the integration of theory and practice in the learning process and facilitation of action-oriented competence development (should be related to a vocational discipline)
V6	Develop lesson plans, syllabus and learning material (related to a vocational discipline)	<ul style="list-style-type: none"> Analyse occupational profiles and work requirements of selected companies in the region and integrate them into lesson plans. Compare, identify and choose learning material, (digital) supporting approaches and tools for training and lessons and take these into account in school-based curricula. Coordinate the contents of the programme (in relevant vocational disciplines) with colleagues in terms of time, content and the existing teacher competences. Create a syllabus for a vocational discipline and ensure its manageability with the help of modern ICT.
V7	Plan theoretical and practical lessons in classrooms, workshops and industrial workplaces (related to a vocational discipline)	<ul style="list-style-type: none"> Planning of lessons, combining practical skills with theory, reflecting realistic work situations and taking the background of the students into account. Use of curricula and translation into annual, monthly, weekly teaching plans and develop lessons/sessions/training accordingly. Design of lessons linked to work processes and occupational profiles to support high-order thinking skills, intellectual risk-taking and problem-solving. Develop knowledge of systems and of work and promote occupational competence (Handlungskompetenz), which is needed for the development of teaching material. Vocational training experiences are conducted in a supportive training environment in which ideas, beliefs and opinions of the trainees are valued and shared. Knowledge is managed effectively and different sources of information are utilized (e.g. UNEVOC database) for preparation of learning sessions.

Code	Competence	TVET Teacher Task
V8	Carry through learning sessions to support competence development of learners (related to a vocational discipline)	<ul style="list-style-type: none"> • Creation of learning situations that imitate and reflect the world of work in a selected vocational discipline in order to prepare the trainee to face the challenges. • Organization of vocational training experiences, relevant to the labour market, to develop trainees' information and communication technology (ICT) skills. • Preparation of a learning session to make use of professional language in a job-relevant context and to occupation by means of a range of speaking, listening, viewing, reading, presenting and writing activities. • Implementation of lesson arrangements for individual and group management strategies to achieve expertise in a certain vocational discipline and to manage inappropriate behaviour. • Implementation of technology based learning strategies to selected and foster computer-mediated communication and enable trainees to learn from collaborative activities.
V9	Carry out assessments and evaluations of the learners occupational competence (related to a vocational discipline)	<ul style="list-style-type: none"> • Plan, apply and evaluate tests for determining performance of learners which are oriented towards theory and practice of work process requirements and tasks. • Apply formative and summative assessment approaches (e.g. self-assessments, portfolios, rubrics, questionnaires, demonstration, projects) to determine the status of occupational competence development this should be planned and executed in a manner that reflects the challenges of work processes in the vocational discipline). • Handle rating systems to evaluate teaching success and the learners outcome related to a vocational discipline. • Use evaluation methods to get feedback on teaching and training from the learners. • Coordinate and implement a process of further development and improvement based on assessment and evaluation results in the vocational centre and in cooperation with industry partners.
V10	Accompany students competence development reflecting the competence development level, living environment and individual learning conditions	<ul style="list-style-type: none"> • Develop possibilities for intervention by further improvement of methods and contents for teaching (e. g. changes in classroom management, training equipment and learning media as well as better orientation on work processes in the industry). • Analyse teaching and learning practice to identify individual related learning and development needs. • Improve general and individual learning conditions by implementing an internal differentiation. • Develop and apply methods of career counselling to support the personal development of learners within their chosen occupational subject and beyond.

Code	Competence	TVET Teacher Task
V11	Improve learning and interaction processes by choosing and developing suitable methods (relevant to the vocational discipline in question)	<ul style="list-style-type: none"> • Invite the learners to strengthen their practical capabilities, knowledge and self-evaluation skills by focussing on action-oriented methods. • Implement independent and autonomous learning periods for the learners with the aim of preparing the trainees for the challenges in the world of work. • Identify, plan and open learning opportunities in vocational schools, workshops in companies and other learning venues. • Enhance teaching and learning practices by reflecting assessment and evaluation results.
V12	Shape and manage learning and work environments and industrial workplaces (relevant to the vocational discipline in question)	<ul style="list-style-type: none"> • Plan and set up workplaces/workshops and learning venues which are suitable for combining practical and theoretical learning. • Apply classroom and workshop management concepts and tools to improve quality (e. g. using the management concepts – such as 5S, 7S, 3R - effective and time-efficient use of infrastructure and rooms). • Maintain and shape learning venues, workplaces/workshops and other technical equipment according to industrial standards and knowledge level of occupational research. • Ensure learner’s access to health and safety measures so that they are acquainted with legal and practical working conditions. • Application of occupational health and safety regulations including first aid facilities.
V13	Shape the learning and school culture and further develop the school environment to encourage lifelong learning	<ul style="list-style-type: none"> • Support a school culture with a focus on quality development in learning and teaching. • Stimulate learners to build up critical thinking. • Plan and implement team concepts that enable TVET teachers to identify problems, collect, analyse and exchange information, adjust data and objectives, test ideas and opinions, form and justify conclusions, make predictions, and solve problems in relation to an occupational field. • Identify innovations (e.g. IoT, digitalization in industry) in the world of work as well in vocational disciplines and make use of them for a continuous improvement processes in vocational schools. • Sensitize learners to evaluate the consequences of further technical progress in relevant occupational fields.

Code	Competence	TVET Teacher Task
V14	Develop curricula for TVET at school level and participation at national level	<ul style="list-style-type: none"> • Choose and apply relevant methods for curriculum development – like work-process analysis, expert workshops with skilled workers, DACUM, other approaches. • Create lesson plans in accordance with national curricula and regional efforts. • Coordinate curricula for training and learning in terms of time, content, teaching competence and resources in TVET institutions. • Take part in regional and national bodies and development projects for determining content of TVET-specific learning. • Initiate regional activities for detecting (technological) innovations in companies (e.g. institutionalized cooperation between TVET schools and companies) for improvement of school-based curricula and lesson plans.

ANNEX 2:

RECOMMENDATIONS FOR IMPLEMENTATION

1. HOW COULD TRAINING OF TVET TEACHERS LOOK LIKE?

In vocational training, the focus of training interventions is targeting the ability to carry out complete work processes with all the requirements coming from different stakeholders like society, training providers and the industry. This ability, also described as occupational competence, is expected of successful specialists or skilled workers. As an important employability factor, it should not only be at the centre of the training of TVET students, but also be the focus of the qualification of TVET teachers.

The quality of TVET teacher qualification can only be increased, if a part of the training is carried out directly at the workplace. In the case of TVET teachers, this is a TVET school. Only in this authentic environment will the future TVET teacher be able to practise successful teaching methods and experience methodological competence in cooperation with a professional mentor. A mentor is an experienced TVET teacher at the respective school and is specifically trained to fulfil this important task.

The following recommendations are intended to help interested institutions develop modern training programmes for the qualification of TVET teachers by taking necessary practical and professional sequences into consideration.

- a. There are several **general subjects** which TVET teacher candidates should take. These subjects could be delivered directly at a university using the format of traditional seminars. Possible subjects could be:
 - Education law (including school organization), youth and civil service law
 - Vocational Pedagogy/pedagogical psychology
 - Vocational methodology of professional practical training
- b. A second focus in the pre-service qualification for TVET teachers should be on **subject-based methodological seminars** which not only focus on strengthening TVET teacher candidates' technical professionalism, but also give them the opportunity to develop and experience a variety of adequate training and teaching methods. In a workshop atmosphere, future TVET teachers can practise teaching sequences and discuss advantages and disadvantages of different pedagogical interventions with qualified supervisors and fellow group members.
 - TVET teacher candidates must attend workshop seminars
 - A part of this training could be organized as a blended-learning event
 - » Group size: 5-8 participants
 - » 1-2 training exercises per participant
 - » 1 advisory visit by a supervisor
- c. A significant and mandatory part of the **TVET teacher qualification** should be conducted directly **at the TVET school**. Only in this environment will the future TVET teacher be able to experience all aspects of being a teacher of TVET students. This pedagogical approach will only be successful if experienced mentors, who are capable and motivated to train the young generation of TVET teachers, are available at TVET schools. Young TVET teachers benefit from the experience of mentors and are also supplied with new pedagogical and methodological knowledge which they can apply

at the TVET schools. Possible framework conditions of the training at TVET schools could be:

- Coordinated support and advice offered to TVET teacher candidates is given by the school head, the teacher trainer (supervisor) or specialized mentors for teaching practice at the TVET school.
- Within the framework of the mentored teaching training at TVET schools, future TVET teachers will observe and listen to other teaching lessons for a certain period of time or participate in team teaching. TVET teacher candidates should work with students from different grades to give them the chance to collect as much experience as possible.

2. PROPOSAL FOR A POSSIBLE ASSESSMENT OF TVET TEACHERS

At the end of their training period, every TVET teacher should receive a nationally and/or regionally recognised TVET teacher certificate. Organizing such a certification process also serves as a quality assurance mechanism. The assessment of TVET candidates should include a performance in a professional teaching situation in front of an examination board, which should include, where possible, members from the business sector. In such an assessment, the teacher candidate can show their ability to plan, execute and assess a teaching sequence for TVET students. TVET teacher performance will be used to judge whether they are ready to teach at TVET schools according to the professional standard.

To be more specific: A possible final exam setup according to the approach of this Regional TVET Teacher Standard could be designed in the following way (the proposal might be adjusted according to national regulations):

1. Teaching practice
 - a. One integrated training exercise reflecting a work process (rated by the supervisor as at least sufficient)
 - b. One announced visit to a lesson (rated at least sufficient)
 - » Conducted by an examination commission including chairman and supervisor
 - » Announced one week in advance
 - c. One unannounced visit to a lesson (rated at least sufficient)
2. Written exam
3. Oral exam
 - a. Vocational Pedagogy/pedagogical psychology
 - b. School law (including school organization), youth and civil service law
 - c. Subject-based methodology, instructional methodology of TVET training

In order to establish a regionally recognised TVET teacher standard, the development of an assessment question database would be very helpful. Also, the level of the TVET teacher assessment could be calibrated among the different member countries.

For the assessment of the further development¹¹ of teacher competences in the competence areas, a simple tool can be used that will make use of the RTTS competence areas and competences. Such a RTTS Tool can look like the following:

¹¹ A guideline for the assessment of the overall teacher competence based on the approach and instruments explained here will be offered in an extra paper. The guidelines for the assessment of overall teacher competence do not replace self-assessment, subject related assessment or final exams on a national level.

REGIONAL TVET TEACHER STANDARD'S TOOL (RTTS TOOL)

Competence area	Competence	Code	Parameter Value*		Activity
			Actual	Desired	
Personal and Social	Promote the dignity, culture, values, beliefs and rights of individuals/groups nationally and in the ASEAN region	P1	3	4	
	Plan and implement professional development to enhance TVET teacher skills, knowledge and attitudes towards lifelong learning	P2	2	4	
	Utilize entrepreneurial and soft skills in the learning environment	P3	1	3	
	Identify and apply laws and regulations of educational institutions (e.g. schools) and act according to youth and young adult legislation	P4	4	5	
	Perform with their colleagues in teams to enhance TVET delivery and school development.	P5	2	3	
	Set goals for challenges and establish a safe and stimulating environment for students, rooted in mutual respect	P6	3	5	
	Promote green skills and sustainability in the learning environment	P7	2	4	

Vocational Research, Discipline, Didactics, Pedagogy, Management	Analyse the requirements of technology and the changing work and develop strategies or modes for learning in different learning environments	V1	3	4	
	Determine occupational competence requirements and respective learning efforts and training needs of students	V2	3	5	
	Analyse technology and its meaning for learning in the context of organization, methods, tools, equipment and materials in the world of work	V3	1	4	
	Analyse didactical approaches and evaluate their use for learning in the context of digital technology and changes of work and work organization	V4	2	4	
	Design learning sessions through use of innovative teaching methods to open up the complexity of work	V5	4	5	
	Develop lesson plans, syllabus and learning material	V6	3	4	
	Plan theoretical and practical lessons in classrooms and workshops and industrial workplaces	V7	4	4	
	Carry through learning sessions to support competence development of learners	V8	3	3	
	Carry out assessments and evaluations of the learners' occupational competence	V9	2	3	
	Accompany students competence development reflecting the competence development level, living environment and individual learning conditions	V10	3	3	
	Improve learning and interaction processes by choosing and developing suitable methods	V11	2	3	
	Shape and manage learning and work environments and industrial workplaces	V12	2	4	
	Shape the learning and school culture and further develop the school environment to encourage lifelong learning	V13	1	3	
	Develop curricula for TVET at school level and participation at national level	V14	0	2	

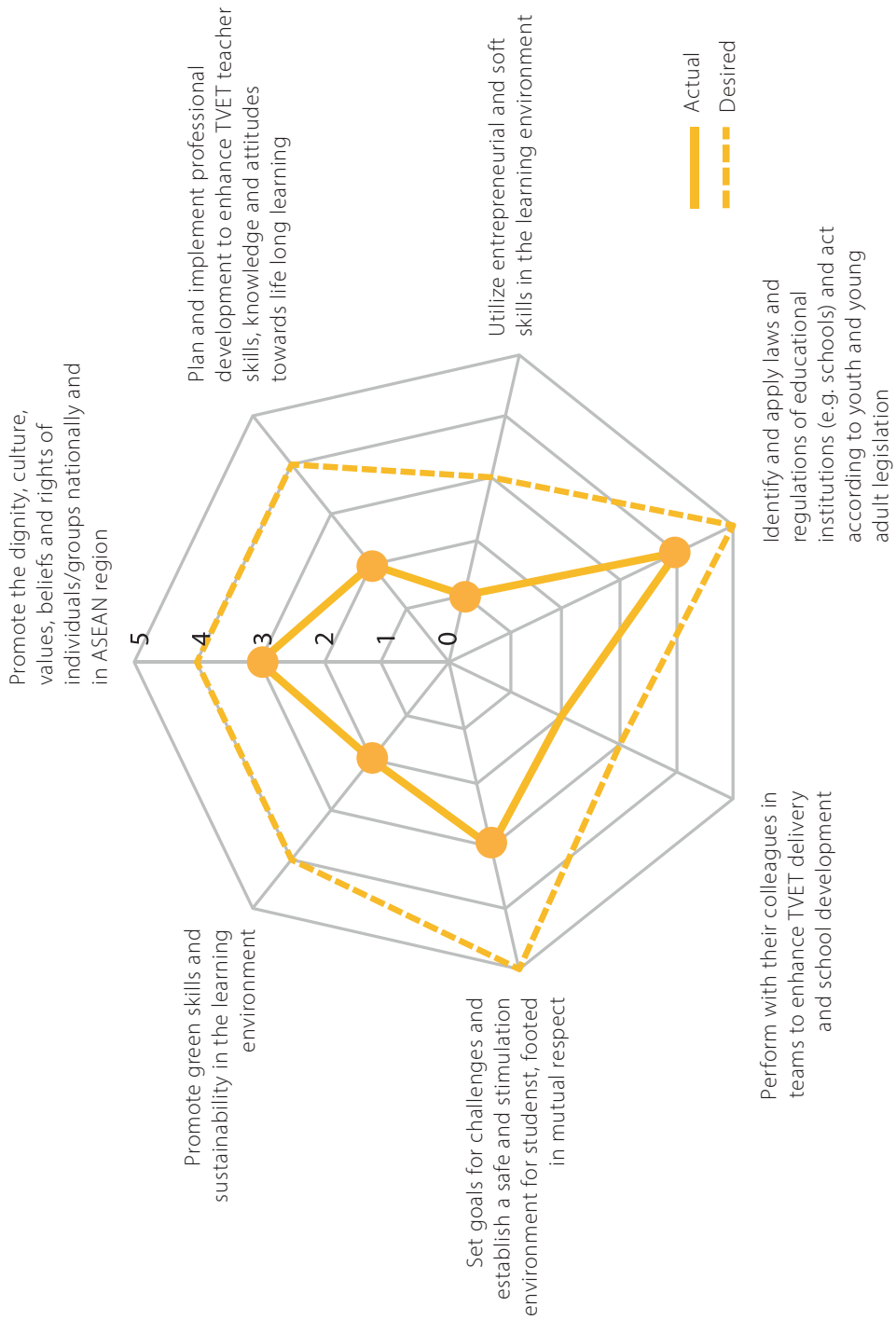
* parameter value: (example); scale: 1 Novice, 2 Advanced Beginner, 3 Competent, 4 Professional, 5 Expert

The result could be a TVET teacher's competence profile (see figures) on the one hand and on the other hand a starting point for quality development processes.

Quality development processes with a focus on competences of TVET teachers can be supported by a description and rating of the **actual** situation, a definition of the **desired** situation and competence – combined with a realistic time schedule – and a determination of *activities* to support the development process. Such a Quality Development Framework (QDF) was developed for example in a European project (see QualiVET 2007; Spöttl/Becker 2016) and could be used also in the ASEAN member states.

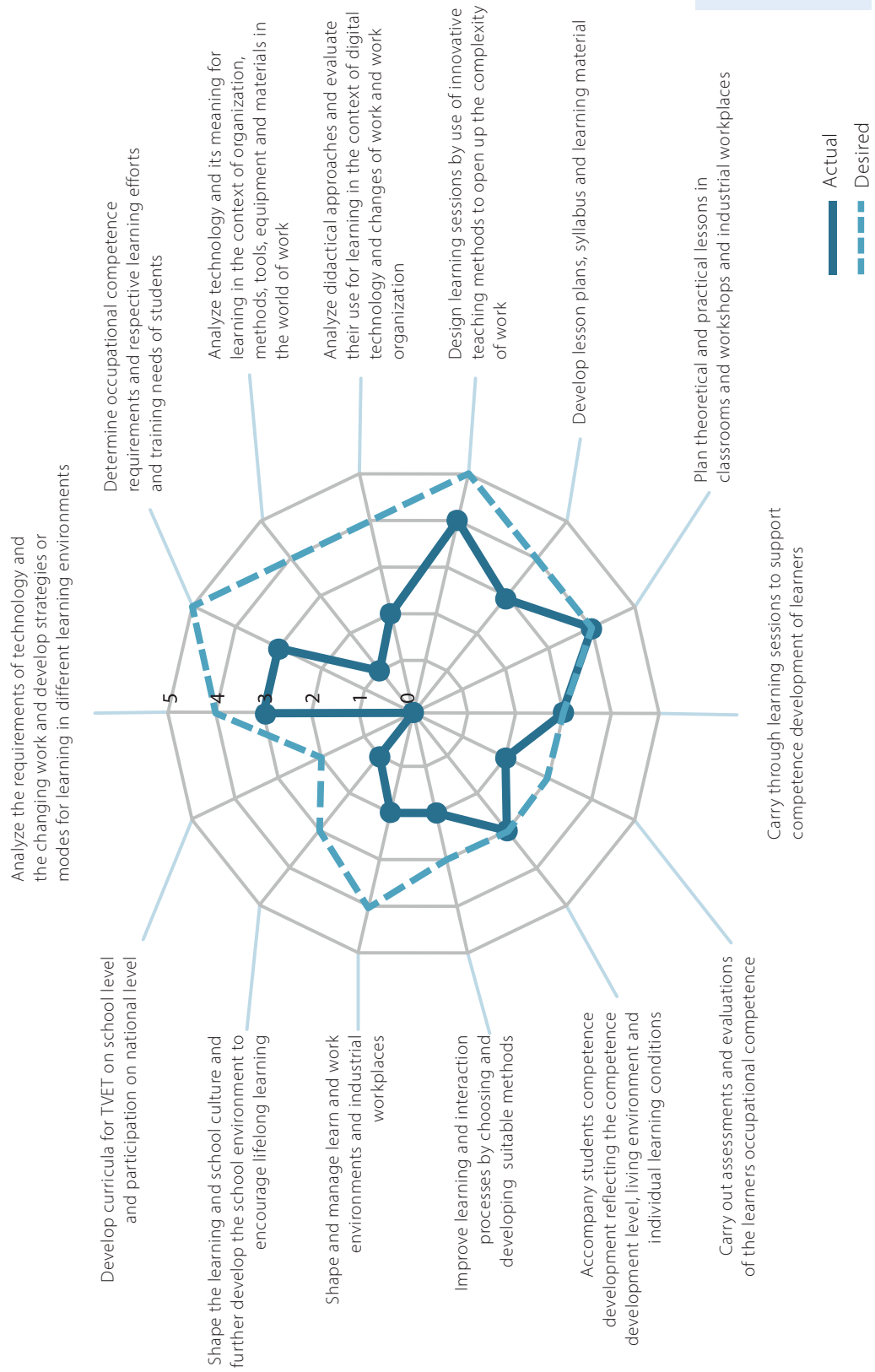
The scaling of the assessment takes into account that the competences of the TVET teachers are generally not fully developed in real life. Teachers who are experts in the tasks associated with the respective competence receive a rating of five points (expert). Beginners or Novices, on the other hand, are rated with only one point. A missing competence will be rated with zero points. The rating scale of the RTTS Tool is based on the Dreyfus/Dreyfus model (see Dreyfus/Dreyfus 1986; Markowitsch et al. 2008) which takes into account the successive competence development of personal skills in a specific domain.

Personal and Social



- 1 Novice
- 2 Advanced Beginner
- 3 Competent
- 4 Professional
- 5 Expert

Vocational Research, Discipline, Didactics, Pedagogy, Management



- 1 Novice
- 2 Advanced Beginner
- 3 Competent
- 4 Professional
- 5 Expert

— Actual
- - - Desired

ANNEX 3:

GLOSSARY

Term ¹²	Definition
Apprenticeship	Systematic, long-term training alternating periods at the workplace and in an educational institution or training centre. The apprentice is contractually linked to an employer and receives remuneration (wage or allowance). The employer assumes responsibility for providing the trainee with training leading to a specific occupation.
Apprentice/Trainee	An apprentice or trainee is a person undertaking vocational training over a specified period in a skilled trade or skilled occupation.
Assessment	The sum of methods and processes used to evaluate the attainments (knowledge, know-how, skills and competences) of an individual and typically leading to certification.
Assessment of learning outcomes	Process of appraising knowledge, know-how, skills and/or competences of an individual against predefined criteria (learning expectations, measurement of learning outcomes). Assessment is typically followed by certification.
Basic skills	The skills and competences needed to function in contemporary society, e.g. listening, speaking, reading, writing and mathematics.
Certificate	An official document, issued by an awarding body, which records achievements of an individual following assessment against a predefined standard.
Comparability of qualifications	Extent to which it is possible to establish equivalence between the level and content of qualifications (certificates, diplomas or titles) at sectoral, regional, national or international levels.
Competence	Ability to apply learning outcomes adequately in a defined context (education, work, personal or professional development) or ability to use knowledge, skills and personal, social and/or methodological abilities in work or study situations and in professional and personal development.
Curriculum	The inventory of activities implemented to design, organize and plan an education or training action, including the definition of learning objectives, content, methods (including assessment) and material, as well as arrangements for training teachers and trainers.
Employability	The degree of adaptability an individual demonstrates in finding and keeping a job and updating occupational skills.

¹² Definitions of terms are based on the publication of the German Federal Institute for Vocational Education and Training (BIBB) (2016): *Berufsbildungsbegriffe Deutsch-Englisch* that collects definitions for many core terms and also takes into account definitions provided by CEDEFOP. A number of definitions are based on scientific literature.

Term	Definition
Formal learning	Learning that occurs in an organized and structured environment (in a school/training centre or on the job) and is explicitly designated as learning (in terms of objectives, time or resources). Formal learning is intentional from the learner's point of view. It typically leads to certification.
Framework curriculum	Framework curriculum for vocational subjects at vocational schools within the framework of vocational training in the dual system.
Informal learning	Learning resulting from daily activities related to work, family or leisure. It is not organized or structured in terms of objectives, time, or learning support. Informal learning is in most cases unintentional from the learner's perspective. It typically does not lead to certification.
Learning by doing	Learning acquired by repeated practice of a task, but without instruction.
Learning outcomes	Set of knowledge, skills and/or competences an individual has acquired and/or is able to demonstrate after completion of a learning process, formal, non-formal or informal.
Lifelong learning (LLL)	The process of acquiring knowledge or skills throughout life via education, training, work and general life experiences.
Non-formal learning	Learning that takes place through a programme of instruction but does not usually lead to the attainment of a formal qualification or award, for example, in-house professional development programmes conducted in the workplace.
Occupational competence	Handlungskompetenz (occupational competence): Integration of professional competence, individual competence, methodical competence, and social competence. An employee has the ability to carry out a complete work process when an employee has the necessary occupational competence.
On-the-job-training	Vocational training given in the normal work situation. It may constitute the whole training or be combined with off-the job training.
Prior learning	The knowledge, know-how and/or competences acquired through previously unrecognised training or experience.
Qualification	The term qualification covers different aspects: (i) Formal qualification: the formal outcome (certificate, diploma or title) of an assessment process which is obtained when a competent body determines that an individual has achieved learning outcomes of given standards and/or possesses the necessary competence to do a job in a specific area of work. (ii) Job requirements: knowledge, aptitudes and skills required to perform specific tasks attached to a particular work position.
Soft skills	Skills that cut across jobs and sectors and relate to personal competences (confidence, discipline, self-management) and social competences (teamwork, communication, emotional intelligence). Source: EU commission (Skills panorama) 2015

Term	Definition
Technical and vocation education and training (TVET)	TVET is concerned with the acquisition of knowledge and skills for the world of work. Throughout the course of history, various terms have been used to describe elements of the field that are now conceived as comprising TVET. These include: Apprenticeship Training, Vocational Education, Technical Education, Technical-Vocational Education (TVE), Occupational Education (OE), Vocational Education and Training (VET), Career and Technical Education (CTE), Workforce Education (WE), Workplace Education (WE), etc. Several of these terms are commonly used in specific geographic areas.
Trainer	Trainers are responsible for planning training content and schedules and for conducting in-company vocational training programmes.
Training modules	Training modules are time-limited, standardized and didactically founded constituent elements of applicable training regulations. They describe what learners should be able to do after completion of a module.
TVET teacher/ Vocational teacher	(Teacher in TVET) 1. A person whose function is to impart knowledge or know-how to students or trainees in a vocational school or training centre. 2. A vocational teacher's functions tend to overlap with those of the trainer; the teacher usually works in a school situation and gives both related instruction and some, if not all, of the practical training.
Validation of learning outcomes	Confirmation by a competent body that learning outcomes (knowledge, skills and/or competences) acquired by an individual in a formal, non-formal or informal setting have been assessed against predefined criteria and are compliant with the requirements of a validation standard.
Vocational Didactics	Area to be studied by TVET teacher students in order to develop relevant teacher competences to teach vocational didactics in overall and in particular occupational fields. It is a scientific subject for the clarification of the theory structure, relevant contents and methods for supporting vocational learning processes.
Vocational Discipline	Area to be studied by TVET teacher students in order to develop relevant teacher competences to teach occupational subjects in a particular occupational field. Scientific subject for the clarification of the theory of occupations/ occupational competence and the contents of teaching.
Vocational Pedagogy	Area to be studied by TVET teacher students in order to develop relevant teacher competences to teach vocational pedagogy in overall and in particular occupational fields. It is a scientific subject for the clarification of the theory structure of learning processes, for planning, carrying out and assessment of learning sessions.
Vocational School	Vocational schools at upper secondary level generally provide instruction in general and vocational subjects to trainees receiving vocational education and training.

ANNEX 4:

LIST OF CONTRIBUTORS

CONTRIBUTION FROM AMS AND REGIONAL/INTERNATIONAL INSTITUTES TO THE DEVELOPMENT OF THE REGIONAL TVET TEACHER STANDARD (2014 - 2020)

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