



Quality Assurance Framework for Dual Study Programmes in Mozambique and South Africa

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| Abstract | The quality assurance framework refers to quality standards for dual study programmes in Mozambique and South Africa. In the first part of the analysis, four quality dimensions are suggested. In the second part of the analysis, checklists for the verification of these quality dimensions are being introduced. |
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Quality standards for dual study programmes: Dimensions and Checklists

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These quality standards are the result of a discussion process within the EU-Project LaTFURE - Learning and Teaching Tools Fuelling University with the Economy in Mozambique and South Africa. Involved were four partners from Mozambique (Eduardo Mondlane University, University Lurio, University of Zambeze, Ministry of Science, Technology, Higher Education and Vocational Training), seven partners from South Africa (University of Western Cape, Cape Peninsula University of Technology, University of the Witwatersrand, University of Limpopo, University of Cape Town, University of Mpumalanga, Department of Higher Education and Training) and five European partners (Donau University Krems, CHE Centre for Higher Education, DHBW Baden-Wuerttemberg Cooperative State University, FH Joanneum University of Applied Sciences).

Main goal is, to provide useful guidelines and criteria for a high quality in dual study programmes. It addresses primarily responsible persons in Higher Education Institutions, who plan, conduct and develop dual study programmes. The paper consists of two parts. Part 1 explains four quality dimensions, which are crucial for good teaching, learning and management. Part 2 offers Checklists with aspects that should be considered in every quality dimension and by the admission of industry partners for dual study programmes. They are not exhaustive and should be rather seen as cornerstones for a good quality of dual study programmes. Just as the quality of a study programme should evolve, particularly the checklists should be continuously updated and individually adapted by the HEI, which offer dual study programmes.

Part 1:

Quality Dimensions for combining theory and practice as the central characteristic of dual study programmes

To ensure high and constant quality in dual study programmes, it can be helpful to use some quality dimensions as orientation. In the following, four overarching quality dimensions are listed that are relevant for the quality assurance regarding the combination of theory and practice as the central characteristic of dual study programmes. Each dimension contains key questions that HEIs, which already provide or will provide dual study programmes, should ask itself to develop quality and maintain quality assurance in this kind of programmes. Furthermore, each dimension explains ways and gives examples for possible answers, which at the same time lead to a good quality assurance in dual study programmes.

The first dimension made important quality aspects clear regarding the study concept and with it the goals of qualification in dual study programmes. Then, in the second dimension, the focus shifts to the admission and support of the students who participate in such programmes. Furthermore, the structuring of the programme and its examinations play a significant role in the quality assurance on the third dimension. In addition to that, the management and quality control complete the dimensions.

Quality Dimension 1 – Study concept and learning objectives

The first quality dimension regarding the combination of theory and practice deals with key aspects about the study concept and the learning objectives.

To achieve a study concept in a high quality, the dual study programme should fit into specific profile of each HEI. That means to define “dual” as a distinguishing feature for the institution and incorporating it into the HEIs mission statement, strategy and development plan. The dual study programmes should distinguish themselves from regular programmes because of its specific character, which should be recorded in relevant written documents. In addition, dedicated resources (e.g. HR and equipment) should be made available for this kind of programmes.

Furthermore, the study concept of dual study programmes is significantly characterised by the combination of theory and practice, which should be explicitly addressed in the programme regulations and the curriculum. The HEI also organise exchanges of information and discussions with their industry partners on a regular basis, so that all involved parties are kept updated and amongst other things, there can also be a development of quality

concerning the combination of theory and practice. Another special aspect of the dual study concept is that the industry partners can also propose topics for final thesis and tasks for study projects. Further, they provide assessments of the performance of dual students in the company / in practice, which are included in the final assessments by the HEI. All of the agreements should be recorded in written documents, which gives the possibility that both, the HEI as well as the industry partner, can work together on a transparent knowledge base.

If we consider the learning objectives that characterize the study program as a 'dual' program, the importance of know-how transfer must be taken into account. The main added value of dual study programmes is the double qualification of students through a scientific study and a practical training related to theoretical and science-based training contents. That means that theoretical learning contents can be classified in work-related contexts and at the same time a scientific reflection of practical learning contents through the combination of theory and practice is given. Consequently, the combination of theory and practice promotes the linking and application of theoretically acquired knowledge with practical experience. In addition, insight into problems in business practice and relevant topics of practice-oriented research trains the communicative ability and social skills of the students. This allows application-oriented solving of research and development tasks, which contributes to the employability of dual graduates. The practice partners thus play an important role in achieving the learning objectives by enabling the students to gain an active insight into the field of practice and the cooperation with the HEIs, especially in examining and supervising matters. To increase the employability of dual students after successful graduation, the HEI should on the one hand analyze in defined intervals the needs of the industry and on the other hand the target groups for the study programme. The generated knowledge should always be taken into account when developing new dual study programmes or further developing existing dual study offers. This ensures that students are up to date with the latest developments and challenges in the industry. Another important aspect is also to find ways for a continued employment for the dual students at their partner company. For that, the HEI and the industry partner should regularly discuss those options.

Quality Dimension 2 - Admission and support of dual students

The second quality dimension focuses on the admission of dual students to and their support during their dual study programme.

A good quality level on this dimension also requires a combination between theory and practice in form of cooperation between the academic and the industry partners, which works on a basis of binding written documents recording agreements between the partners.

Jointly defined and transparent communicated selection criteria create the possibility for a cooperative admission of students. Further, it shows applicants what is specifically expected of them and gives them the opportunity to prepare well. This is also a part of advice and information that should be offered to interested persons before starting a dual study programme. Binding documents in addition create the basis for consequent student support and supervision through both learning venues. This should also include regular consultations of study programme directors and the industry partners to share information. Additionally the practice-transfer-modules can be supervised, which also helps to ensure the achievement of performance relevant examinations.

On the top of that good and prudent student support is also an important aspect to prevent students from dropping out of their study programme. Thus, there should also exist provided support measures like the option of an individual coaching or mentorship but also concrete and permanent supervisors on both sides – the HEI and the company – that support the students through their study. Another important factor in decimating dropouts is the monetary and time support from the practice partners. Dual students should receive adequate remuneration in order to be able to pay for an apartment, their livelihood and study fees without having to do any additional work. Furthermore, companies must provide their dual students with enough time to learn and attend courses at the HEI.

Quality Dimension 3 – Programme design and examination

Other key quality aspects on combining theory and practice in dual study programmes are dealing with the programme design and the examination.

There are some forms of teaching and learning which specifically support a good combination of theory and practice:

Practical stages and projects in the company should be accompanied and supervised by members of the teaching staff. On the other side, the HEIs should have adequate educational concepts for the theory-practice-transfer and it should be possible for them to involve members of the partner companies as lecturers or part-time teachers. Moreover, there should be a systematic change between the learning locations, ideally also within one module, to support a better combination of theory and practice. In addition, students should get the possibility to earn credit points not only in the theoretical but also during the practical phases in the dual study programme. The importance of each practical stage and project has to be transparent in the forefront of the programme in a written document for both parties, the student and the teacher. Furthermore, a joint supervision of the final thesis by the HEI and the industry partner, who, as mentioned before, has a right of proposal for themes for the thesis, can be beneficial for the quality of student's examination in dual study

programmes. The results of the practical stages and projects should be presented concertedly in front of representatives of the HEI and the industry partner. Nevertheless, the HEI has the total responsibility for the grading and the examinations during the dual study programme and the practice partners accompany these processes with information and support.

To reach a good quality of examinations, which in particular also test the skills acquired through the combination of theory and practice, the examinations during a dual study programme should diversify a lot. On the one hand that could be written and oral exams, seminar papers, presentations with written documentations, practice-transfer-reports, project-reports and/or practice simulations which take place at the HEI and on the other hand practice-transfer-projects at the working place by the industry partners. Moreover, it is important to design the examinations module- and course-related as well as competence-oriented.

To ensure that the whole workload in the company within the framework of theory-and-practice does not adversely affect the students' attainment, the HEIs and the industry partners should jointly draw up recommendations for reasonable worktime arrangements and make them an inherent part in the cooperative agreements. Both parties also make certain that the agreed worktime arrangements are implemented in the dual study programmes students' employment contract. Besides that, the remuneration for the students on this kind of programmes should be sufficient so that there is no need for them to take an extra part-time job.

Quality Dimension 4 – Management and quality control

The last dimension on which the quality assurance of dual study programmes is orientated is the one of management and quality control.

In order to have a good management of these programmes under the aspect of combining theory and practice, it is good when the HEI's organisation has a clear positioning (e.g. as faculty, center or department). It can be also helpful when the internal and external features of the HEI have an impact (internal may regard students and teachers, external industry partners, vocational schools and more). Other aspects for a positive management can be found in clear task descriptions and a systematic communication process between the HEIs and their industry partners (e.g. in the context of an advisory committee, a board of trustees or a joint dual committee). Furthermore, the HEI should have concrete criteria in place to assess the suitability of companies to become good industry partners in a dual study

programme (for an example for detailed criteria see section "admission criteria for industry partners for dual study programmes"). These criteria should be communicated transparently, so that interested companies can orientate themselves and know exactly what they need to bring to become practical partner in a dual study programme. The HEI is responsible for the recognition, monitoring and, if necessary, denial of suitability of cooperating companies along the criteria, but also by taking regular appropriate measures of the practical stages to ensure the quality of the content. Suitable industry partners should sign binding guidelines to become cooperation partners.

To secure the financing of the dual study programmes for students, HEIs and companies together should determine an adequate remuneration for the students in this kind of programmes. The remuneration should be based at least on trainee allowance (or similar) and its contractual fixation. The HEI should ensure that students do not need to take on a part-time work in addition to their dual studies, to promote the students concentration on the study and a successful graduation.

The quality management of the HEI should have a toolbox at its disposal, which they can use to evaluate and systematically continue to develop the relevance of theory-and-practice. By this and by the inclusion of student assessments and company perspectives in graduate studies they manage some measures in quality assurance in particular with relevance to theory-and-practice.

To guarantee the required professional and educational skills of the professors, part-time lecturers and trainers to combine theory and practice in the dual study offer, the HEI has to incorporate it at a strategic and an operational level. The procedure at the strategic level would be to integrate this aspect into the mission statement and quality objectives of the HEI. At the operational level the warranty is given by a shaping selection process for teaching staff and by evaluating them (by students) and providing further training in teaching methodology. In addition, the HEIs ensure that the evaluation results have practical repercussions. In detail, this could mean that the HEI already in the selection process also targets suitable practitioners. Teaching staff receives special didactic training (and further education) that is tailored to the requirements of dual study programmes and experienced teachers train and supervise new teachers.

To ensure the long-term securing for the availability of personnel resources and equipment there is a financing from federal state funding, company contributions and student fees, as well as mixed forms of these three. Also the HEIs have a strategic financial planning in place, in which resources for dual study programmes are explicitly designated.

Part 2:

Checklists with aspects that should be considered in every quality dimension and by the admission of industry partners for dual study programmes

Quality Dimension 1:

Study Concept and learning objectives

How does the dual study programme fit into the HEI's profile?

- The HEI defines “dual” as a distinguishing feature, incorporating it into the HEI’s mission statement, strategy and development plan
- The dual study programme has a specific character differing to that of regular full-time programmes which is recorded in relevant documents in writing
- Dedicated resources (e.g. HR and equipment) are made available for the dual study programme

What (special) form of combination of theory and practice characterises the study concept?

- The combination of theory and practice pursued in the dual study programme is explicitly addressed in the curriculum and programme regulations
- The HEI organise regular discussions with the industry partners participating in the dual study programme (e.g. can be integrated in a Board of Trustees, Advisory Board, Joint Committee) on developing the quality of the combination of theory and practice
- Industry partners have the right to propose topics for final thesis but they can't impose topics

Which specific learning objectives characterise the study programme as a “dual” programme?

- The transfer of know-how: double qualification of students through a scientific study and a practical training related to theoretical and science-based training contents

How do the forms of combining theory and practice recorded in the study concept contribute to attainment of the learning objectives?

- Theoretical learning contents can be classified in work-related contexts and at the same time a scientific reflection of practical learning contents through the combination of theory and practice is given
- Combination of theory and practice promotes the linking and application of theoretically acquired knowledge with practical experience

How are the partner companies involved in achieving the desired skills objectives in the combination of theory and practice?

- Practice partners play an important role in achieving the learning objectives by enabling the students to gain an active insight into the field of practice and the cooperation with the HEIs, especially in examining and supervising matters

How does combining theory and practice contribute to employability?

- Insight into problems in business practice and relevant topics of practice-oriented research trains the communicative ability and social skills of the students
- Application-oriented solving of research and development tasks contributes to the employability of dual graduates

How is the employability of the dual students after graduation ensured?

- Needs analyzes are carried out in the industry and the results are taken into account in the further development of existing or new dual study programmes
- Target group analyzes are carried out to determine the needs of potential students and the results are taken into account in the further development of existing or new dual study programmes
- The HEI and the industry partner discuss options for continued employment after the graduation of dual students

Quality Dimension 2:

Admission and support of dual students

Do binding documents record agreements between the HEI and companies on admissions for students to dual study programmes?

- There are written documents that create the possibility for the cooperative admission of students by the HEI and industry partners
- The admission of dual students happens in a jointly process.
- There are defined and transparent communicated selection criteria that applicants must meet.

Are there regular consultations on support and supervision for dual students between the learning venues?

- Programme directors and industry partners regularly share information on issues concerning student support and supervision
- Together, the HEI and the partner companies ensure that performances relevant for examinations are achieved
- There are supervised practice transfer modules

Which support measures are provided by the HEI to prevent dual students from dropping out?

- The HEI and the partner companies give students the option of receiving individual coaching or participate in mentorship programmes
- There are permanent contact persons and supervisors for the dual students on the company side and at the HEI
- There is intensive advice and information of interested persons in a dual study before starting a dual study programme
- Students are adequately paid by their companies, so they don't have to take another job in addition to their studies and practical training
- Students get other support like grants for fees or paid accommodations etc.
- It is ensured that the companies give the students enough freedom to learn/study

Quality Dimension 3: Programme design and examination

Which forms of teaching and learning specifically support the combination of theory and practice?

- Members of the teaching staff also supervise key project/practical stages in the company. Transparent information about the key project/practical stages is given to students and teaching staff in a written document before the start of the programme
- There is a joint supervision of the final thesis by the HEI and the partner company
- Results of key practical stages are presented to both university and company representatives together
- There are practical stages that earn students ECTS points
- The HEI has adequate educational concepts for theory-practice transfer
- The HEI involves members of partner companies as lecturers or part-time teaching staff

How is the change between learning locations scheduled?

- There is a systematic change between learning locations, ideally also in one module

How is it ensured that the whole workload in the company in the context of the combination of theory and practice does not adversely affect student attainment?

- Students on dual study programmes receive sufficient remuneration so there is no need for them to take on extra part-time work
- The HEI and the companies draw up joint recommendations for reasonable working time arrangements and include them in cooperative agreements
- The HEI and the company ensure that the jointly agreed working time arrangements are implemented in employment contracts for students on dual study programmes

How are the skills acquired specifically via the combination of theory and practice tested?

- Results of the practical stages and projects are presented concertedly in front of representatives of the HEI and the industry partner

- The HEI has the total responsibility for the grading and the examinations during the dual study programme and the practice partners accompany these processes with information and support
- Examination formats during a dual study programme diversify a lot (e.g. written and oral exams, seminar papers, presentations with written documentations)
- Some examinations take place at the HEI and some at the working place
- Examinations are designed module- and course-related as well as competence-oriented

Quality Dimension 4:

Management and quality control

How is the dual study programme managed under the aspect of combining theory and practice, especially in the interplay between the two learning locations?

- There is a clear positioning in the HEI's organisation (e.g. as a centre, faculty or department)
- Internal impact (students, teaching staff) and external impact (industry partners, vocational schools, etc.) of the institution are monitored
- There are clear descriptions of the tasks involved
- The HEI ensure the quality of practical stages by taking appropriate measures
- There is a systematic communication process between the HEI and the industry partner (e.g. in the context of a Board of Trustees, Advisory Board, Joint Dual Committee) established
- The HEI have criteria in place to assess the suitability of industry partners for dual study programmes and communicates these criteria transparently for companies (for detailed criteria see also section "admission criteria for industry partners for dual study programmes")
- Suitable industry partners must agree to the criteria in order to become cooperation partners for dual study programmes (e.g. sign binding guidelines for cooperation companies)

How can the HEI/academy and the companies jointly secure financing of the study programme for students?

- Joint recommendations for the adequate remuneration of students on dual study programmes (based on training allowance, etc.) and their/its inclusion in agreements
- HEIs ensure that students do not need to take on part-time work in addition to their studies and practical training

What quality assurance measures are taken to especially manage the relevance to theory and practice?

- The HEI's quality management has a toolbox at its disposal that can be used to evaluate and systematically continue to develop the relevance to theory and practice
- Inclusion of student assessments and company perspectives in graduate studies

How does the HEI/academy ensure that professors, part-time lecturers and trainers have the professional and educational skills required to combine theory and practice?

- The HEI incorporates this aspect into the mission statement and quality objectives (strategic level)
- The HEI ensures that the teaching staff receives didactic training specifically for the dual study programmes (including further education).
- Old teachers train new teachers.
- The students regularly evaluate the teaching staff.
- The HEI ensures that evaluation results have practical repercussions
- In the selection process for teaching staff the HEI specifically targets practitioners who are then specifically prepared for their tasks.

How is the availability of personnel resources and equipment for the study programme secured long-term?

- Financing from federal state funding, company contributions and student fees, as well as mixed forms of these three
- The HEI has strategic financial planning in place, in which resources for dual study programmes are explicitly designated.

- Dual study programmes are included in the HEIs strategy as an important profile feature.

How suitable is the industry partner for the dual study programme?

- The company provides a fixed number of study places, which are communicated to the university before each application start.
- The company is committed to work closely with the students and the HEI within the dual study programme.
- The range of tasks and / or the thematic field in which the company is active fits the respective dual study programme.
- The company participates in a systematic communication process with the HEI (e.g. in the context of a Board of Trustees, Advisory Board, Joint Committee)
- The HEI is responsible for the recognition, monitoring and, if necessary, denial of suitability of cooperating companies

How does the industry partner support its students?

- The company names one person as a supervisor for the dual student. The supervisor is responsible for involving the dual student in the company's projects and processes and supports him/her in the formulation of tasks for study projects and the master thesis.
- The supervisor writes short evaluations/assessments that serve as the basis for the assessment of study projects by the HEI.
- The company is committed to giving the student the opportunity to participate in projects or processes in the company in the form of practical study projects.
- The company undertakes to enable the student to attend face-to-face events at the HEI.