
The University of Rostock / Technical Education (UR / TB) has been collaborating with the Pedagogical University of Maputo / ESTEC (Escola Superior Technica da Universidade Pedagogica) since 2006. The collaboration was primarily focused on the projects LEFOMO and LEKOM under the German Academic Exchange Service (DAAD) in terms of follow-up support and retention of former students (alumni). One result was the establishment of a further education and research network for professional pedagogues in Mozambique. On site, the (technical) vocational training and relevant research / development (R&D) tasks were supported at the central location in Maputo, which closely cooperated with the decentralized branches in Nampula, Beira-Chimoio.

Vocational training scientists of UR / TB have trained and supported scientists of the ESTEC and coordinators for further education and/or R&D scouts at the branch locations. During workshops which also took place at the branch locations, TVET teachers were also given the opportunity for further education (the only systematic TVET further education program in Mozambique to date). As a result, first (small) educationally- and technically-oriented R&D projects (in professional science) could be designed and partly implemented and evaluated by the ESTEC scientists in cooperation with TVET teachers and (few) partners from business companies.

The two projects LEFOMO and LEKOM have presented first concrete results: regarding the shaping competency of the participating scientists and TVET teachers, regarding their work process-related and task-related teaching and regarding the – networked – collaboration beyond work and teaching locations and many more. Jointly, the participants identified regional and/or Mozambican requirements in the further development of vocational training and the description of potential projects. Specifically, the coordinators and scouts made their first steps in the envisaged further education and research / development work within the network. There is one case of an alumni scout who successfully completed a PhD program at the UR/TB. Thanks to the established network, the vision to make vocational training in Mozambique a noteworthy innovation factor has made its first – small – progress.

The VET-Net project is now based on the assumption that the positive experience made in the further qualification and R&D network in Mozambique can also be used in other countries of Sub-Saharan Africa and, thus, for developing a network which is even more powerful in the region. Related efforts are intended to be made in South Africa and Ethiopia.

Methodology

The intended expansion resp. establishment of the further education and research network for vocational teachers is associated with various knowledge and shaping interests. On the one hand it is important here to reflect – theoretically – the insights which have been gained in Mozambique and other networks so far, particularly experienced barriers and opportunities relevant for establishing vocational training networks, with particular regard to the specific conditions in Mozambique as well as the different situations in South Africa and Ethiopia. The underlying intention is to establish, more than hitherto, efficient networked education and R&D in the in the vocational training field via the network. It is to be expected that the project partners from Mozambique as well as from South Africa and Ethiopia implement these network activities more and more autonomously. The network players shall increasingly use the network for planning, implementing and evaluating modern further education measures themselves and – jointly – initiate, implement and evaluate (small) relevant R&D projects. For this purpose, the network infrastructure available in Mozambique must be further expanded; while in South Africa and Ethiopia the establishment of related networks must be started – and the networks must be interlinked. The African network players have to gain the relevant competencies.

Consequently, expertise and shaping interests determine the methodological approach in the VET-Net project. This approach can be put into the context of an action research process or shaping-oriented vocational training research process, started even before the beginning of the project and continued
even after project completion. Together with the scientists from Rostock, the African network players reflect the – more or less given or even still not given - networking practice in relation to well-known positions, as currently taken in vocational training studies - and aspire for an improved networking practice on this basis. This takes place on the shaping level, by establishing or expanding the existing network, as well as on the content level, by considering key points of action / shaping research in network shaping and even the expected further education of vocational training teachers and in planned relevant (small) R&D projects. It all depends on the structure of the networks to be established, the guiding idea for the aspired teaching / learning and the R&D and the addressed contents! Here, a suitable structure does not necessarily constitute an appropriate guiding principle (teaching and acquisition of design competency?!?) and acceptable content, too. All this needs hard work. Here, not only the African but also the German partners may acquire sustainably effecting action and shaping competency. It is to be expected that the network will expand even beyond Mozambique and South Africa or Ethiopia. Expressions of interest have already arrived from Namibia, Tanzania and Angola.

Results
To enable and advance the planned expansion of the Mozambique network towards South Africa and Ethiopia (and even third countries in Sub-Sahara Africa later, if applicable), “Fact finding tours” were implemented in both countries. The aim was reached to explore – even beyond the already started communication with the Universities of Witwatersrand and Jimma – the relevance and acceptance of the intended network and related further education and R&D activities.

In South Africa the Witwatersrand University / School of Education / Education Policy Unit (Wits) in Johannesburg is going to take over the central key role in South Africa. Wits is cooperating with “branches” (colleges), temporarily in Port Elizabeth and near Kapstadt\textsuperscript{v}. In Ethiopia, the University of Jimma / Institute of Technology (UJ) is becoming a centre of further education and R&D for vocational teachers and, for the time being, cooperating with surrounding colleges\textsuperscript{vi}. Project managers were appointed for Wits as well as for UJ; a research coordinator and R&D scout was appointed at UJ\textsuperscript{vii}. First – basic – workshops were planned and implemented in South Africa and Ethiopia, with project partners from third countries being involved, too.

In Mozambique, workshops on the topics „Vocational training or action research, network building, action / shaping related curriculum development, work(process) oriented teaching and learning, methodology and didactics of competency enhancing – learning field oriented – lessons etc.“\textsuperscript{viii} took place – in the central Maputo as well as in the decentralized places Nampula and Beira-Chimoio. Even in South Africa, namely in Johannesburg, Cape Town\textsuperscript{ix} and Port Elizabeth, and in Ethiopia, in Jimma and Addis Abeba, first workshops were implemented. Now, additional tasks can be addressed in other workshops\textsuperscript{x}.

Conclusion
To continue the successful implementation of the project objective, i.e. extend and use the R&D network of vocational teachers, the following tasks are essential resp. following questions have to be answered:

\begin{itemize}
  \item It has to be clarified if the profession science orientation and the overall purpose the VET-Net project is based on, i.e. to establish a shaping and competency oriented and networked further education for vocational teachers and respective R&D, gets the needed acceptance\textsuperscript{xi}.
  \item The available concept on extending and establishing the further education and R&D networks and their interlinking has to be enhanced according to the regional and country specific opportunities; in particular, it has to be clarified if the intended and – in first steps – partly already established cooperation centres shall and can become a true focal point of the aspired network activities.
  \item Regarding South Africa, it makes sense to connect the VET-Net activities with current „related“ project activities; in particular, the Manufacturing, Engineering and Related Services Sector Education and Training Authority (MerSETA) is recommended to make use of the – country-wide – aspired competency and shaping oriented further education offers and, thus, improve the conditions for a success of the cooperation project with the University of Bremen / TVET Research Group (I:BB). The German Society for International Cooperation (GIZ) is also advised to consider
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the VET-Net project activities in the currently prepared extensive program on vocation education enhancement in South Africa.

- In Mozambique, the declared intention of the Ministry of Education is supported, to expand the cooperation centres for further education (and R&D) in Beira-Chimoio and Nampula established in the VET-Net project in a first step within the course of a planned, extensive GIZ project. In addition, support is provided regarding a real progress of the establishment of an education and further education centre for vocational educators, oriented to the main objective of the VET-Net project in the field of education and further education of vocational school teachers at the UP in Maputo, planned by the UP and the University of Magdeburg / Institute of Vocational and Business Pedagogy / Chair for Didactics of technical subjects.

- Under the African and particularly the country-specific circumstances, competency oriented and shaping oriented as well as networked learning and teaching have to be displayed in detail – even beyond the existing experiences from Rostock and Mozambique. The further education and R&D network, the networks in Mozambique, South Africa and Ethiopia and the network in total, must be implemented further. In particular, competency and shaping oriented teaching / learning projects have to be planned, implemented and evaluated.

Friedhelm Eicker

References

1 LEFOMO: Teacher Education and Training in Mozambique; LEKOM: Teaching and Development Expertise for TVET Teachers in Mozambique. See also project documentation: Eicker, F. (Publisher), Further VET-Teacher Education in Mozambique, University of Rostock, April 2013 (currently printed).

2 Professional Pedagogues means scientists and teaching staff who teach and research at universities, schools and other vocational education and training institutions. The global term is Vocational Education and Training (VET). TVET means technical vocational education and training. The previous project activities were more or less limited to TVET, in the future general VET activities are being offered.

3 See Mucauque, F.: Technical teacher training in Mozambique. Vocational Training in Mozambique under consideration of the technical teaching program at the Pedagogical University of Maputo (in German), Saarbrücken 2010.

4 Network activities, further education and R&D naturally require further development and consolidation in Mozambique; in Ethiopia, the major reasons for starting the activities were the long-term experience with German vocational training, and in South Africa, the different economic structure, the initiated R&D efforts in vocational training and the proximity to Mozambique.

5 Initial talks and events took mainly place at the Eastcape Midlands College in Port Elizabeth and at the West Coast FET College in Malmesbury.

6 This will initially include five colleges in Southwest Ethiopia, a. o. the Jimma FET College; later, the activities shall be extended, e. g. by involving the Tegbareid TVET College in Addis Abeba and the Adama Science & Technology University / Further Training Institute.

7 Meanwhile, Ewnetu Hailu Tamene started, related to its coordination and R&D tasks, a dissertation project at the UR / TB, working title „Establishment of a further education and research network in Jimma / Ethiopia with particular consideration of the UJ“.


9 The project activities turned out to be successful even after a short period of time. An indication for this is the allocation of the VET-Net project with its arrangements in summer 2012 in Cape Town to the program of the current “German-South African Year of Sciences”.

10 The next workshops are planned for the period 29.4 to 3.4.2012 in Maputo.

11 It has to be clear that no or at least no „pure“ scientific orientation and no related teaching and learning are aspired here, as well as no university education and R&D that remains more or less tied to the academic sphere.