Actual tendencies in the German TVET-System and the possibilities for international cooperation between Cuba and Germany

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German Education System

This very simplify synopsis shows that the German education system is clear linked to the reproduction of class structure.

Decision of Tracks in education system and of life chances with the age of 9 years.

Tertiary Part: Universities and Universities of Applied Sciences

- Transition in different Pathways
- Direct Transition

This type of school doesn’t exist in all 16 federal countries.
The Technical and Vocational Training (TVET) System in Germany

- Overview of the structure
- The specific of Germany: The Dual Training System
- Current changes and actual development
The Structure

- For nearly hundred years the Dual Training System was the main structural element in the German TVET System.
- Since the late 1980s at least 70% of a age cohort move in the Dual system.
- During the time it exist parallel the full time school based vocational training system, mostly for female workers as nurses, assistance in laboratories et al.
The Structure

♦ Since the early 1990ths the former structure with the dominant Dual Training system eroded
♦ Only about 40% move into the Dual Training system
♦ Increasing of the full time school trainings
♦ A new element arise: the transition system with mostly school based trainings but without any vocational certification
♦ The structure diverge into a three partied Technical and Vocational Training System
Statistical data about the new structure

Figure 1: The relation between the three sectors of the German vocational education and training system in 1995, from (Autorenguppe Bildungsberichterstattung, 2006: 80).

Figure 2: The relation between the three sectors of the German vocational education and training system, from (Autorenguppe Bildungsberichterstattung, 2010: 96). * the decline of the transition system in 2008 is caused by a reduction of the concerning activities of Federal Labour Office.
The public organised Technical and Vocational School System

- Every technical and vocational schools are on the secondary level of the German education system.
- Due to the federal structure of Germany it exist a different vocational school structure in 16 federal countries – my focus here is the situation in Berlin.
- 26 Integrated Vocational and Technical Education and Training Schools (OSZ) exist in Berlin for the different groups of trades.
- The size is between 1500 students up to 6000.
- They integrate first the prevocational training in the transition system, with the opportunities to get a better school certificate for moving into the Dual Training System, second the theoretical class room courses into the Dual System, the full qualifying school based vocational training and at least the technical education to get an university entrance degree.
- Before coming to vocational education or other part of the secondary level of general schools in lower secondary are four years periods of labour education.
Dual Training System in Germany

The situating of the Dual Training System in the education system of Germany.
Dual Training System in Germany

- Training contract between company and students, i.e. legal status similar to a worker.
- The education usually takes about 3 or 3.5 years.
- It ends with a final examination,
- Official training qualification with a certificate accepted on a large range.
- The responsibility of final exam is the commercial or artisanal chamber, not the state or TVET schools.
The theoretical education:
Education at school 2-3 days a week in special instruction for the job and general instructions.

The practical education:
Practical training 3-4 days a week.
Legal foundations of the Dual Training System

The theoretical education:
- Curricula formalised by state organisation (KMK)
- School laws of the federal states

The practical education:
- Practical training law
- Training regulations
- Training contract
Problems of the dual system

♦ In times of economic crisis enough places are not provided.
♦ This leads to:
  ▪ Schools offer a full-time training with theoretical and also practical education.
  ▪ The publicly payed training grows. (As seen in the new states and Berlin 22.6%.)
♦ A large cohort of youths are not well prepared to serve the requests of the high level in the TVET training
  ▪ More youths with graduation of academic pathway move into the TVET system
  ▪ Discrimination of migrant youth and/or other underprivileged youth
Demands and expectations

- Funding of the public training market.
- Change in the context of the EQR. That means comparability of the European training.
- Better possibilities of changing between the different kinds of education. (school, job, university) e.g. open transition from skilled worker to the university
Actual tendencies in the German TVET-System

- Solving the problems with the transition system – One core problem here is the contradiction between the German way of labour socialisation in vocational trainings against modularised training with isolated skills and competencies
- Integrating the disadvantaged youths into the TVET system
- Cope with the demographical changes, the so called “Facharbeitermangel” (the future lack of skilled worker for the high-tech production)
- Shaping the German Qualification Framework – attempt of a coherence on European level and bridge the deep break between the general and technical education in Germany
Actual tendencies in the German TVET-System

- Consolidating of the current state-of-the-art vocational school training methods of holistic and action oriented training - Lernfeld-Concept i.e. the move from theoretical based subjects to holistic problem solving approaches

- Strengthen the German methods of problem solving work and learn

- Capability approaches of curricula development for updated vocations

- Continuing update of the technical education system on current changes in the technology and in the economy by creating new vocations and/or actualising the training contents of existing vocations, e.g. Technical Education for Sustainable Development (TESD)
The continuing update of German TVET-System

- In general it is a complex multi-level process with different social actors
- Creating of better fitting vocations by a cooperative process with trade unions and employer’s association mediated by state agency
- Changes in the contents of different vocations by the training needs of companies and the practice
- The official recommendations by state agencies or some changes in the curricula
- The actualisation of the contents by professionalism of TVET-Teachers due to some formal or informal requests of actual training needs
The Technical Education for Sustainable Development (TESD)

- Due to the needs of globalisation, strong international economic competition and international cooperation combined with a deep social and economic crisis the orientation on environmental protection and resource efficiency is requested.
- International activities and contracts e.g. the decade for education of sustainable development (ESD) 2005 – 2015 lead to some German TVET actions in this field since the end of the nineties of last century.
- In all trades - commerce, tourism, nutrition, agriculture, industry and crafts etc. concerning activities were developed – here focussed on metal industry and construction.
TESD in construction and metal industry

- Main focus are on trainings for environment protection, energy efficiency and resource productivity.
- Knowledge and skills for new technologies are needed e.g. electric mobility or the renovation of buildings for energy saving purposes and/or to construct buildings producing more energy as consumed.
- Too, the different requests of Life Cycle Assessments (LCA) became part of the trainings in the different trades.
- The strengthen of international orientation of vocational training and education.
## TESD in construction and metal industry

### Construction industries
- New curricula for some trades in the construction fields are developed
- A large amount of work-learning-assignments exists and is used
- The professionals in the field known the ESD concept and develop new learning arrangements

### Metal industries
- Only the plumber contents some notes of ESD in its curricula
- Only few professionals know about the ESD concept
- Activities in TVET-schools and companies within the Dual Training System inn ESD are rarely developed

Environment protection is integrated in all regulations of company based training
Thank you for your audience to the first part

◇ Questions and needs to debate some points?
◇ After I will move to the formation of TVET Teacher
The Formation of TVET-Teacher in Germany

A short overview of the German situation with a focus on the formation in Berlin

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**Short presentation of the IBBA**

The Institute of TVET and Labour Education is part of the Technische Universität Berlin (TU Berlin)

http://www.ibba.tu-berlin.de/menue/institut/

- It consists of the department of TVET-Teachers Formation with two full professors and one assistant professor
  - Didactics of metal and electrical sciences
  - Didactics of construction
  - Didactics of food safety and nutrition

- Second, the department of labour Education with three full professors of different science fields
  - Didactics of labour education
  - Technic field of labour education
  - Economic field of labour education with a specification in consumer’s ecology

- In all about 350 students and 60 employees at different levels
Overview of teachers education for TVET-Schools

- A overview to the general situation in Germany’s teacher formation on the academic level
- The references of the Kultusministerkonferenz (KMK)
- The TVET-Teachers formation in Berlin, here including the Labour Education Teachers as well
Due to the federal structure of Germany we have 16 different concepts of the formation of the VET-Teachers.

For converging the complex structure we have a administration board of the federal conference of the 16 ministries of education and culture (KMK).

Contrasting the recommendations of the KMK every federal country makes its own way in formation VET-Teachers.

The commons are:
- in the hierarchy of the German’s civil service the TVET-Teachers are located in the senior service
- the Teachers working in the secondary level 1 of the German Education Structure are ordered in the higher service.
- The Teachers of practice working in the workshops of the TVET-Schools are in the lower service.
- The TVET-Teachers have to study at universities, universities of applied sciences or at pedagogical universities.
The studies of German TVET-Teachers in the Academic Field

- They have to study two scientific disciplines, e.g. mechanics and political science or a combination of automotive mechanics and German studies or other acceptable combinations.
  - The first science must be select out of a pool of sixteen scientific fields (Berufliche Fachrichtung or Labour Education itself)
  - The second science must be from the general topic of schools education (Allgemeinbildendes Fach)
- Additionally they have to study the didactic of each scientific discipline
- Supplementary they have to study the social sciences which are closely linked to educational and pedagogical processes (Bildungswissenschaften)
- They have to work practically in the workforce area of its first science, often they have an apprenticeship in this area, if not they have to do it during its studies at the university.
- They have to try three practices in the TVET-Schools over one or two months each. (Schulpraktikum)

It takes at least 5 years time minimum.
The studies of German TVET-Teachers in the Field of Practice

- They finish its studies at the universities with a master thesis, after they have to step into the second phase of TVET-Teachers Formation. (Referendariat)

- It last from one to two years of working in TVET-Schools in a realistic ambience in the two scientific disciplines.

- During the time they have three didactic seminars, one on general didactic, two of the didactics of each scientific discipline.

- During the time continuous examinations take place, the candidates have to write a second thesis and they will get a final examination at a state commission.
The formation of TVET-Teachers

The study is structured in the new European system of Bachelor and Master Studies.

Three years of Bachelor Studies with a continuous examination during the studies and a final Bachelor thesis.

Master Studies last between one and two years.
- One year master for the lower secondary level, the topics of Labour Education as a General School’s subject
- Two year master for the upper secondary level, TVET schools and Gymnasium

Mainly the focus during the master studies is on the didactic of the science disciplines, but also some key studies in the different science disciplines.
The formation of TVET-Teachers

Berlin

The studies in Berlin for TVET-Teachers should be chose from a pool of only five scientific fields: metal including automotive engineering, electrical engineering, food sciences, construction engineering, landscape architecture.

The studies of social sciences linked to the educational and pedagogical processes.

The studies of the second discipline must be selected by a official list of 11 general school disciplines, e.g. English, Political Science, Sport, etc.

The studies of the didactics of each discipline.

The TVET-Teacher students have to move between the different universities to study its second discipline.

After the university studies they have to go into a 2 years preparation course at TVET-Schools like still mentioned in the general description.
Outlook to the problems of the TVET-Teachers Formation

♦ Since some years teachers in Berlin don’t get a status as civil servant, they get only a status as employee.
♦ The still large gap between the need of new TVET-Teachers and the offers from the universities will rapidly increase in the next years.
♦ There is many difficulties for the students to organize its studies in moving between universities.
♦ In the TVET-Schools the differentiation of the teacher’s cohort will increase, e.g. not only TVET-Teachers with the mentioned professional career work in school but other type of teachers come in.
♦ The formation of the TVET-Teachers don’t meet the very complicated structure and situation of teaching in TVET-School.
Thank you for your attention to this second part.

Some questions?

- Now, the third and last part is about the international cooperation.
International Cooperation between IBBA, TU Berlin and the UNISS, Sancti Spiritus, Cuba and other German and Cuban Organisation in the TVET-Field
German Organisation involved in international activities in the TVET Field

- The GIZ (Gesellschaft für Internationale Zusammenarbeit), former GTZ, since more than 50 Years it has a large experience in transfer of German TVET theory and practice to developing countries

- The German Federal Agency for TVET (BIBB) under the Federal Ministry of Education and Science is a player in the fields since 10 years, give advising and information sharing of TVET

- Both cooperation are on governmental level, the need of official negotiations between German and Cuban Government
German Organisation involved in international activities in the TVET Field

- German Academic Exchange Service (DAAD) gives
  - Individual scholarship to Cuban Researchers for three months research stay or for a Ph.D. Study stay in Germany
  - Summer or winter schools on specific topic in the TVET
  - Applications and scientific proposals are a requested obligation
- For a research stay in the TVET field German language is necessary
German Organisation involved in international activities in the TVET Field

- IMOVE: a more economical oriented cooperation initiative of different actors from the German TVET field
- SEQUA: Organisational Department of the German Chamber of Crafts to promote the international cooperation of craft trainings worldwide
- Landesstelle for Vocational Professional Development in Developing Countries offers a two week practical basic training in Bio-, Solar, Wind-Energy – only existing in Berlin
- Direct cooperation agreement with TVET-Schools and/or vocational training centres of German Crafts
- And lot of other German organisation in the Field
Possibilities of international cooperations

- Governmental level between Cuba and Germany
- On institutional level e.g. the cooperation agreement between the UNISS and the IBBA institute of the TU Berlin → initial cooperation activities before are requested
- Between economic organisation of each country e.g. some German handcraft companies in cooperation with its chamber and concerning Cuban organisational structure such as is the chamber of handcraft of Northrhine-Westphalia and the Garage of Daimler Automotive Company in Havana
- On individual level of academic exchange by grants for scientists → a research proposal or a R&D project is needed and have to be sent with the grant application
Thank you

♦ More Questions?
♦ and debate!
Sheets used in a presentation in Winter 2010, Sancti Spiritus

Potentials of a closer cooperation

- Deepen the trilateral cooperation specifically with CECESS and the UCP to strengthen the international exchange in didactics and methodic of teaching and training in VET and pre-vocational studies and Work Studies
- As well as deepen the cooperation in a collaborative way in the international scholar community of the educational sciences
- Exchange of students, postgraduates and scholars to strengthen the internationality of research, teaching and practice
- Seminars for the colleagues to interchange the experiences in didactics, methodic and training styles and on modern teaching and training methods
- Cooperation to support the Cuban colleagues to develop concise steps towards a VET to sustainable development
- To come to a cooperation, like partnerships, with Vocational Schools in Berlin to exchanges its experiences and / or to develop common student’s projects in future
To support each other in doctoral and master studies in pedagogical science
What will be the next steps?

- Institutionalisation of the cooperation by a formal cooperation agreement
- Check how the students from Berlin can study some of his modules at the UCP and the CUSS by analyzing the study order of VET-teacher study and of Work Study teacher
- To start with the students interchange to Cuba and the postgraduate and scholar interchange between Cuba and Berlin
- To be part of the implementing of German language courses in Sancti Spiritus in this springtime
- To define a strong and stable communication channel to communicate closely the different topics of further communication
- To define and to work on common research and development projects e.g. cooperative articles in scientific journals, to participate in projects for funding, the comparative analysis of the pre-vocational education in the two countries
- The share invitations to international congresses and to write invitations to participate on it or to get funds from international donors like Humboldt Foundation
- To support each other to get funds and financial resources to participate on international scientific meetings