Beiträge aus der Praxis der beruflichen Bildung

Nr. 6

Training and work

Tradition and activity focused teaching

Internationale Weiterbildung und Entwicklung gGmbH
Capacity Building International, Germany

Impressum

Editor:	InWEnt – Capacity Building International, Germany Division 4.01 Technological Cooperation, System Development and Management in Vocational Training Käthe-Kollwitz-Straße 15 68169 Mannheim
Authors:	Prof. Dr. Rudolf Tippelt, Ludwig Maximilian University, Munich Antonio Amorós M.A., International Cooperation Office (BIZ)
ISBN:	3-937235-16-7
Text editing:	Larissa Weigel, Heidelberg
Layout:	Rendel Freude, Köln
Graphics:	R. Tippelt, Münch
Pictures:	Rendel Freude (title), SOKRATES (page 4)
Date of Publication:	December 2003

Training and work

Tradition and activity focused teaching

Index

InWEnt

InWEnt – Internationale Weiterbildung und Entwicklung gGmbH (Capacity Building International, Germany) - is an organisation for international human resource development, advanced training and dialogue. Established through the merger of the Carl-Duisberg-Gesellschaft (CDG) e.V. and the German Foundation for International Development (DSE), it can draw on decades of experience accumulated by the two organisations in the field of international co-operation. Its practice-oriented programmes are directed at specialist staff and managers, as well as decision-makers from business and industry, politics, public administration and civil society from all parts of the globe. Its Development Policy Forum arranges high-calibre international policy dialogues on subjects of current concerns in the field of development policy.

Division 4.01 of InWEnt has its seat in Mannheim and conducts on behalf of the Federal Ministry for Economic Cooperation and Development (BMZ) advanced training programmes. Under the banner of "sustainable development", its work focuses on questions of technology cooperation, system development and management in the field of technical and vocational education and training. Its dialogue and training programmes are targeted at decision-makers from the public and private sectors, junior managers and multipliers from vocational training systems.

Introduction

From 2003 onwards, InWEnt´s Division Technological Cooperation, System Development and Management in Vocational Training is to present a series on everyday practice in vocational training.

The intention of this series is described in the title itself ("Beiträge aus der Praxis der beruflichen Bildung" = series on everyday practice in vocational training). The division aims to support its programs of international personnel development in the above-mentioned areas with technical documentation in both printed and electronic form.

These reports

- originate in the partner countries, taking into account specific situational demand
- will be tested with and for experts in vocational training in the partner countries in conjunction with respective practice-oriented training programs on offer, and
- with a view to global learning, will be improved and adapted prior to publication according to the recommendations of the partners or the results of the pilot events.

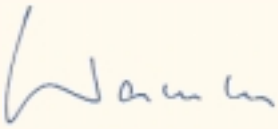
Thus, the Division Technological Cooperation, System Development and Management in Vocational Training is applying the requirements of InWEnt´s training program to its own products in the above faculties: i.e. these can only be as good as their practical relevance for the experts of vocational training systems in the partner countries.

To this effect, we look forward to critical and constructive feedback from all readers and users of these special series.

This manual is one of an entire series of InWEnt publications that have been produced as a result of training seminars and courses carried out in cooperation with the vocational training institute SENATI in Peru.

Our special thanks go to Prof. Tippelt of Munich University and Mr. Amorós from the "International Cooperation Office", who both made invaluable contributions to these activities.

Division Technological Cooperation, System Development and Management in Vocational Training, InWEnt, Mannheim, Germany



Dr. Manfred Wallenborn
Head of Division
tvet@inwent.org

1 Introduction to the topic

an education system needs to prepare students for the real world

Many young people, educational specialists and parents share the view that current school teaching is insufficiently linked to practical areas, as well as being over-long and largely unconnected to real life. Personal relationships between different age groups are increasingly restricted, due to over-expansion of the schooling system, and the school as an institution is in danger losing sight of its main task of preparing young people for the real world. The artificial world of schooling is based on second and third hand knowledge acquisition – and this without the benefit of an experience rich environment. "Real life" is generally something that goes on outside school. American educational scientists have dubbed this phenomenon "A bridge too long" (e.g. Colemann). Despite attempts at modernization, the educational systems of many industrialised countries generally offer an inadequate answer to issues arising from large-scale technological and structural changes. Current educational theory debate over the "Dual System" is illustrative.

a work focused education system

Whereas some predict the end of the dual system (Geißler), deeming this to form part of an outdated "paradigm of production", others look for signs of a "new professionalism" (Kutscha) – the need for which is seen as an unavoidable conclusion of the objective analysis of technological change. For some time now the "modern educational system debate" has been looking for solutions that go further than simple initial vocational training reforms. The ever widening gulf between educational and employment systems has also caused schools and higher education centres to consider the question of "professionalism" and "work" in their curricula. At this moment, traditional doubts over desired degrees of practical work, experienced focused learning, and the social "openness" of educational systems are again being expressed, as is the importance given to work-skills teaching.

the aim of this manual

The aim of this manual is to underline the importance given to work in traditional educational models, to permit a more precise assessment of current theoretical educational debate over the integration of general education, vocational training and dual qualification training courses.

2 The division between general education and vocational training

the division between education and work

While the contributions of the illustrious pedagogues of yore, particularly Rousseau y Pestalozzi, should be praised, the forerunners of vocational focused schools systems and "neohumanist" educational theories – especially the "Prussian Reforms" – brought about a division between education and work, as can be seen in the German education system, and also between the areas of "general education" and "vocational training". A common characteristic of these theories has been the questioning of theoretical educational approaches and anthropological ideas. For many years, the theme of "work" has been excluded the "classic catalogue" of general education subject matter.

vocational training versus general education

Nonetheless, with the onset of the industrial age the dualism of "vocational training versus general education" gradually began to fall into obsolescence, as well educated workers were also required to further develop and maintain the emerging industries. The nineteenth century "neohumanist" education system, however, was only able to address these new concerns by means of a series of "distortions" and contradictions. While some of the rapidly changing elements of the industrialization process were recognized as educationally beneficial and introduced into the educational system, the formal division general education and vocational training remained intact.

high prestige general education and social acceptation

Likewise, the transformation of the Technical Schools in Secondary Schools, at a time when a large number of technical training centres were being formed, served to further widen the division between education and work. This division reflected a clear educational hierarchy, in which vocational training was placed lower down the scale than general education, with the latter enjoying a higher level of prestige and social acceptation.

3 The beginnings of educational reform: rejection of the "book-school"

Marx: productive work in school programmes

At first glance, Marx's proposals seem to represent a departure from the aforementioned contradictions. Influenced by Hegel, who conceived man as a result of his own work, Marx proposed that productive work be introduced into school programmes. Based on Marx's ideas, the concept of polytechnic education decisively influenced the schools system in the former Soviet Union after the revolution of 1917, and was later incorporated into the educational systems of the ex Warsaw Pact countries.

Froebel: work as creativity

Similarly, other educational models emerged, placing "work" at the centre of educational and training theories designed to combat the evident dualism in the neohumanism view of general education and vocational training. In Froebel's opinion, work equalled "creativity" while education constituted "interior and exterior clarity". And then, in 1857, Georgens became the first to use the "work-school" concept in its modern sense.

moving away from teacher centred learning

All the early twentieth century educational reformists agreed on one point: the necessity to move away from wholly teacher centred learning and the simple transmission of subject matter.

moving away from receptive-learning patterns

Consequentially, educational planning began to take account of the "work concept". Moving away from traditional "book-school" receptive-learning patterns, the work-school as an educational reform movement was characterised by the idea that, as well as contributing to the formation of character and personality, the learning process should be linked to not professional requirements and expectations but also civic and social behaviour patterns.

4 Developments in the US: combating the educational deficit with practical tasks

Dewey: integration of practical activities

Dewey's theories about schooling had a decisive influence on proposals for educational reform. From the beginning of the twenties, Dewey was insisting that schooling be closely linked with prevalent socio-political and economic development. In his 1940 publication "Education Today", he claimed there was an overabundance of information and stimuli as well as an impoverishment of children's' out of school environment, due to a lack of practical learning experiences. Dewey stated that schooling needed to "bridge the gap between thought and action" through the implementation of integrated practical activities. Schooling also needed to offer – as was the case in the out of school environment – an existential environment in which "problems naturally suggest themselves". (John Dewey – Democracy and Education, 1916).

experiential areas

The above formed the basis for the development of a "teaching model" in which technical teaching went much farther than the simple integration of out of school, including practical existential concepts, outside the confines of rigid subject matter system demarcation (training workshop, garden, kitchen, etcetera) These experiential areas formed the starting point for the implementation of specialized exercises and courses. In truth, Dewey's teaching plan left teaching by subject to the higher levels – even in further education centres division by subject was relative and the learning process based more on social relationships and conceptions of values.

the function of the school as an institution

This kind of teaching model made questioning of the role of the schooling as an institution inevitable. In "Democracy and Education", Dewey describes these functions as follows:

1. simplifying and ordering,
2. purifying and idealizing,
3. balancing and integrating.

The first of these functions refers to the relationship between pedagogical elements and global factors, while the third deals with extending individual horizons and coordinating different positions. But it is Dewey's second point that is of greatest interest in the present context, referring as it does to the relationship between schooling and the professional world/ society.

identifying didactic potential within the professional world

Dewey theories consider vocational training and general education as two sides of the same coin. The terms "vocational" or "professional education" do not specifically refer to "occupational preparation" in the strictest sense of the word in the context of manual work carried out by students, as the learning process is seen as being inherently structured in the activity itself. The school's role, then, is to identify didactic potential within the professional world and to extend the existential horizon of both school and its students, adjusting and strengthening the relationship between school and economic sector, or between school and society, transcending specific social constraints. (See Figure 1 – John Dewey)

Figure 1: John Dewey (1859-1952)

Experience generates thinking, which in turn reorganizes experience

Education organization is based on activity, exploration,the project, the modification of environment and the associated collaboration between students

School should be "a kind of social life" with a simplified and selected environment where students are taught "to use all their abilities integrally" and where one of the basic tenets is that students learn by doing.

Creator of the "Active School".

5 Schooling projects and the project method

the Dalton Plan: the educational process as a part of the practical world

Dewey's work had an enormous influence on the principles and theoretic concepts applied in the creation of schools during the era, as typified by "movements for a progressive education". Helen Parkhurst's Dalton Plan suggests, for example, that the educational process is a form of experience and as such is part of the practical world. It is no accident that schools adopting the precepts of the Dalton and Winnetka plans include a high level of manual activities, seeking to stimulate students' creative abilities.

the central paradigm: "self activity"

One of the central paradigms of pragmatic pedagogy is "self-activity", the thread that links all reformist concepts. While Parkhurst stated that the objective of the "Dalton Plan" was to focus children's energy towards "the organization and carrying out of their own studies, in accordance with their own way of seeing things", Washburne considered that Winnetka Plan schools should guarantee "the best possible individual skills development". To put these theoretical ideas into practice a wholesale restructuring of predominant teaching concepts would be required.

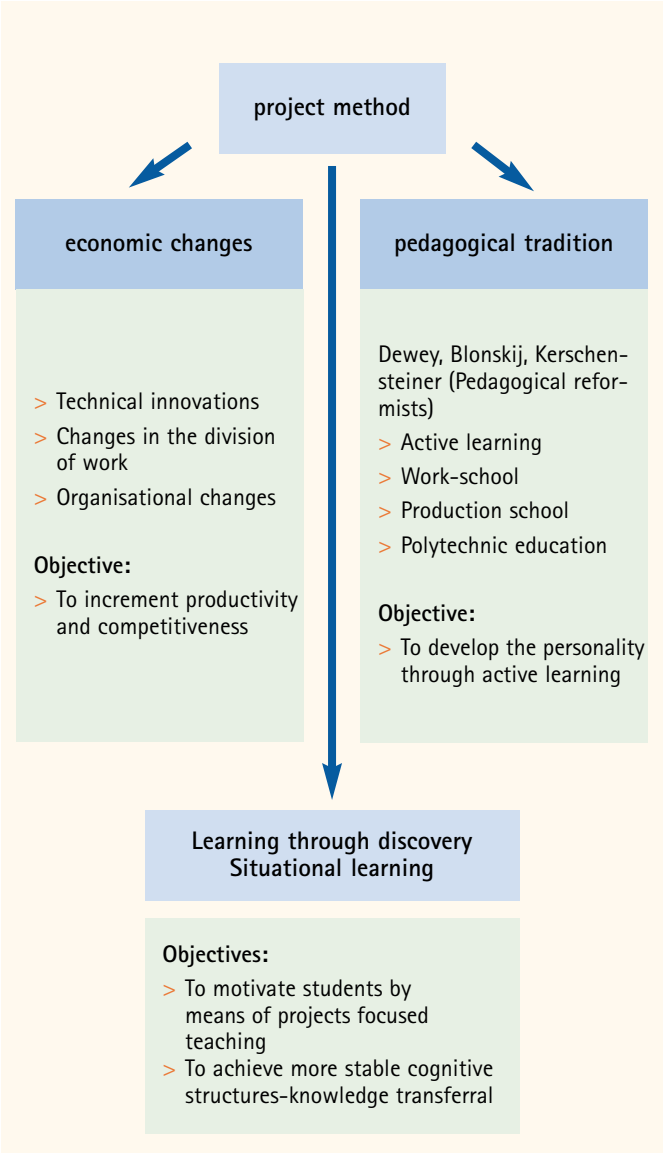
a contract based teaching plan

One of the characteristics of the Dalton Plan is the preparation of work-plans for each class plan at the beginning of the academic year, including minimum and maximum yearly goals in the form of a contract (contract job). Within the framework of the work-plan students are clearly explained the subjects dealt with and the working requirements. Parkhurst said that from this base students themselves can decide how problems are to be tackled and determine their own way of working.

students carry out tasks individually or in groups

To enable students to deal with a theme they are interested in, without interruptions, there should be no "school bell" that for whatever organizational reason may interrupt them. The contract should

Figure 2: Historical roots of the project method



contain precise methodological and bibliographical pointers that facilitate individual or group work. The teacher shows students how to best use their time, as well as offering them advice and controlling their work.

Kilpatrick: typology of the project method

These ideas clearly show that pedagogical reform didactics and methodology are largely based on the "project method". Although Kilpatrick was not the author of this teaching-learning model, something that he himself recognises, he still deserves recognition for being the first to create a "typology" of the project method that even now forms an important part of the didactic methodological debate. Kilpatrick's method is based on the natural development of children's activity, with the work plan being defined as the projects progress.

four types of projects

According to Kilpatrick, projects can be divided into four basic types:

- creative projects (constructing a boat, for example)
- pleasurable projects (enjoying an aesthetic experience)
- problem solving projects
- learning projects (for example, learning irregular verbs in a foreign language)

(See Figure 2 – Historical roots of the project method)

6 Georg Kerschensteiner's work-school

the integration of professional requirements

While the advances of the Pedagogic Reform were shifting focus to the subject (student centred learning) (E. Key, M. Montessori, O. Decroly, and others), the work-school was complemented by another development – the integration of professional requirements. In Germany, Kerschensteiner was the most influential of the educational reformists, with his 1908 conference in Zurich, entitled "The School of the Future: a work-school".

Kerschensteiner: work pedagogic

Influenced by Dewey and A. Fischer, Kerschensteiner developed the "work pedagogic" concept, defining a "law of work" based on temporal phases: observation, synthesis, analysis and verification. He considered that to resolve a problem it is first necessary to think out the planning and possible hypothesis before actually carrying out the planning and, finally, to compare, control and verify the results obtained.

five characteristics

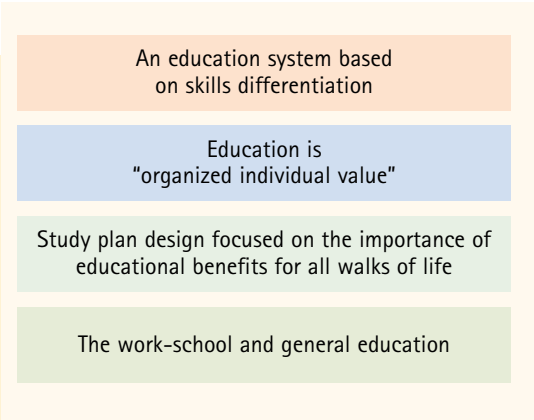
According to Kerschensteiner, the educative relevance of the "work pedagogic" stems from the following five points.

1. the value of things,
2. intelligence and a readiness to take on board new values or ideas,
3. the need for spiritual development,
4. a harmony between means and end, cause and effect,
5. a growing spiritual centralism as a consequence of the organization of values.

all kinds of work have educational value

If the above is the case, all types of work have educational value, which can be termed as – "organized individual value stimulated by cultural heritage". The impetus of the reformist movement and the student centred focus can be seen specifically in "self-generated" work activities that call for total dedication from students, facilitate "freedom and creation", provoke a sensation of "interior success" and, lastly,

Figure 3:
Kerschensteiner's theory of education



comply with the natural law inherent to the work itself.

five principals

In summary, Kerschensteiner's work-school is based on the following five principles:
1. spontaneity,
2. all encompassing appeal
3. freedom of action,
4. development of the conscious,
5. the possibility of self-control.

Kerschensteiner would later expand on these student centred activities in the context of the pedagogic reform tradition.
(See Figures 3 and 4 – Kerschensteiner)

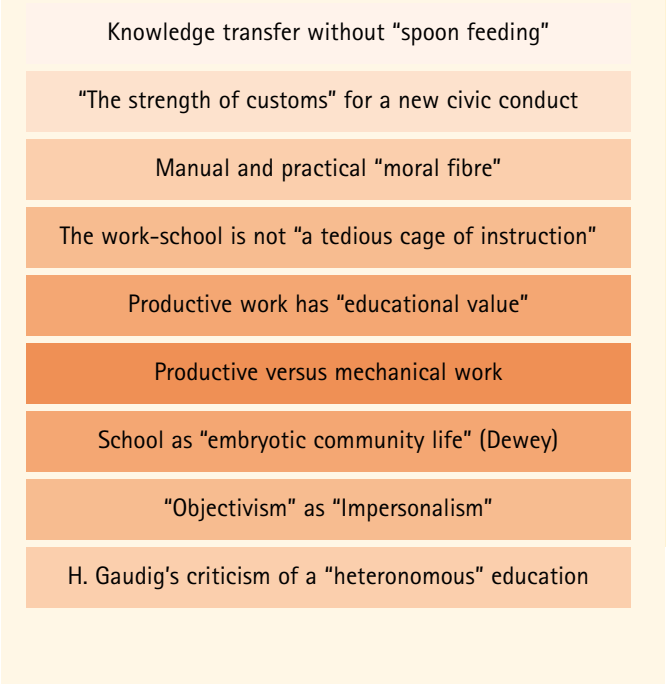
the development of civic values

Another function of education has been defined as "the moralization of society", an area which calls for the development of civic values. Within this context, it has even been suggested that subjective vocations, needs and expectations be repressed. In this theoretical context, with moralization being imposed from outside, personality needs to be adapted to civic values from an early stage, which has often led to Kerschensteiner's work-school ideas being seriously questioned.

Gaudig: showing students the way to discover their own working techniques

Hugo Gaudig, among others, based his ideas on the work-school without accepting the wider implications of civic education. While Kerschensteiner based his theories on a "school for the people" and its graduates, Gaudig's ideas were centred on the Gymnasium. The" free intellectual work" method, similar to Dewey, bases learning activities on the principles of "self-realization" principle from the very first day of school. The main objective of Gaudig's pedagogy is for students to discover their own study techniques.

Figure 4: Kerschensteiner's work-school theory



7 Socialist tendencies: the production school concept

Blonskij: the "production school" concept

There can be little doubt that Pawel Blonskij's "production school" is the most important of these innovations. While Blosnkij was undeniably influenced by the idea of a polytechnic education as formulated by Marx in 1866 in Geneva, and also by numerous technical theories (Pestalozzi, Froebel, Dewey, and others), he still managed to identify his own objective as the implementation of a student centred polytechnic education for children, with pedagogical considerations taking preference over purely economic concerns.

work as a process between man and nature

Blonskij's polytechnic education consisted of "the initiation of the child in the modern industrialized cultural environment". Basing himself on Marx, Blonskij conceived work as a process between man and nature, with man in the subordinate role, and the essence of work as consisting of children carrying out an activity and producing objects that can be classified by the value of the use they are put to. The essence of work education consists of children gradually adapting to the tools and techniques of the trade. (Blonskij, 1965)

education through working for society

The idea behind Blonskij's work-school is closely linked to the "work community" concept. In this context, education by working is "education through working for society" where the subject matter of the work-school is not based on abstract working practices but rather on a "specific complete production process". Unlike Kerschensteiner, who based his ideas mainly on manual work, Blonskij considered that the highest form of "learning by working" lay in the industrial activities. Schools as such would disappear, being replaced by the workshop, the factory or the commune, where intellectual and social education would be combined, as would the work-school and production.

up to the age of seven games are highly important

In order to put into practice and organize his ideas, Blonskij recommended a division of two school levels. While the playing of games was considered highly important (much more so than for Kerschensteiner) during the preschool period (up to seven years of age), a preliminary work-school should be set up for students between the ages of 8 and 13, based on different areas of production, such as agricultural, carpentry and metalwork, which would later be subjected to evaluations.

up to the age of 18: combining education and material production

The second level, up to the age of 18, directly combines the areas of education and material production. Students are to carry out directly productive work and their intellectual education derives from this. For example, physics teaching would take the working of a machine as its point of reference. Blonskij managed to develop a "complex method", breaking the tradition of teaching by subject area, replacing this with an approximation of current teaching methods.

8 Current day work and education: from Montessori schools to the "Kollegschulen"

putting pedagogical reforms into practice

In which areas have these pedagogical reforms actually put into practice or where have attempts been made to do so?

If we return to "recommendations for the creation of basic schools" as formulated by the German Committee for Science and Education in 1964, we can see that the strict division between the trades and education has disappeared in all but a few Federal States. The main function of work policy is the creation of practical areas in schools, where knowledge acquirement and work can be combined.

two fundamentally different approaches

Nonetheless, two fundamentally different approaches can be defined:

- The "occupational pedagogy model" is focused on vocational training courses, based on the carrying out of manual work, complemented by professional guidance.
- The pedagogical model is centred on technical training as part of a technical thinking based education.

linking practical work and theory

In this context, practical work and theory techniques are linked. If "work policy" is to be more than a simply technical doctrine – the integration of political and economic aspects – then it include interdisciplinary teaching needs to be included in the curricula.

the Montessori school: a pre-school children focus

One of the most representative examples of the "formal institutionalisation" of the new pedagogical approaches is to be found in the so-called "Montessori Schools". This teaching method (school-work) is focused on children's pre-school learning and its main psycho-pedagogical characteristics are as follows:

- respect for children's spontaneity
- respect for individual development patterns
- freedom for children to carry out the activities that they wish to, respecting the interests of the group
- respect for children's desire to act independently, in accordance with their own interests
- an adequate environment to stimulate self-development

educational development material

The Montessori method, which provides students with educational development "material", as applied to systematic exercises focused on the education of the senses and intelligence, has had a great influence on the new practical activity focused pedagogic models.

the Hibernia School: based on anthroposophical doctrines

An interesting exception to these tendencies is the pedagogical model presented by the Hibernia School, based on anthroposophical doctrines that represent an important step in the integration of general education and vocational training.

practical learning in "real world" work situations

The Hibernia School considers that the practical learning process should be applied to "real-world" situations for children of over seven years of age, culminating in their obtaining a higher education access diploma and an occupational qualification. The Hibernia School pedagogical model has the following three characteristics – it is dynamic, its objective is to provide each student with integrated training, and it achieves its goals through the implementation of development based learning strategies.

training as part of general education

The so called "integrated training" focus is based around three bipolar dimensions – understanding/acting, individual/social, preserving/changing. The resulting vocational training model can be viewed as a part of general education. The process of obtaining a professional qualification begins in the kindergarten through playing games, with confidence building activities aided by diverse activities

and techniques at primary school level, leading to basic manual training at secondary school and culminating in occupational specialisation.

"dual qualifications" training

In the search for a "happy medium" between work and education, it is first necessary to define the difference between dual qualifications training and the unitary concept of single qualification and integration. The objective of dual qualifications training is to provide the skills necessary to obtain both a occupational qualification and a certificate giving access to higher education. It is not intended, however that a single area of study lead to two separate occupational qualifications. According to the Joint Federal-Land Commission for Educational Planning and the Promotion of Research Activities (a group of representatives of the State and the Länder) dual qualification studies are only possible once minimum curricular integration conditions have been assured and when previously unconnected subject matter has become interrelated.

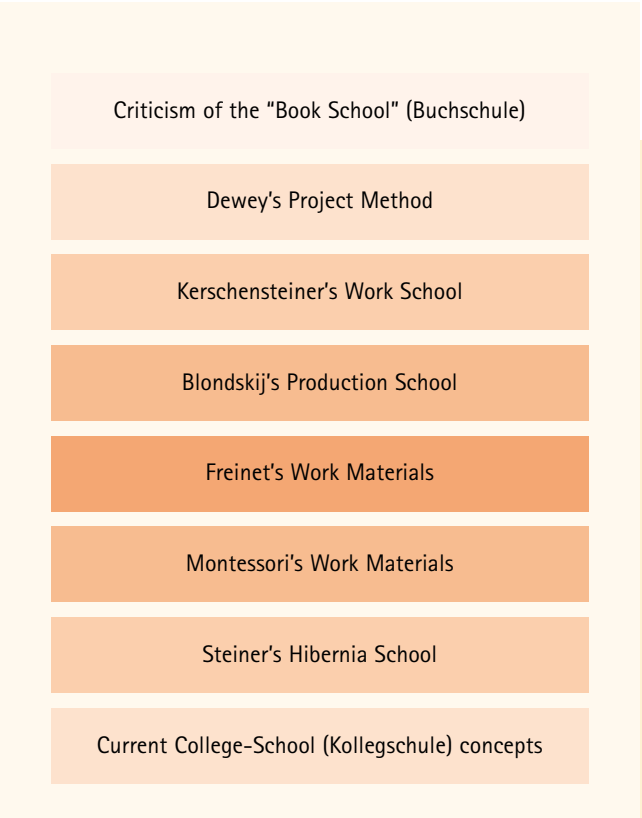
school–college: integrated general and vocational teaching

The school-college (Kollegschule) in North-Rhine Westphalia has become both important and renowned, held up as an example of integrated general and vocational teaching. This kind of school is based on a pedagogic approach that considers institutional and subjective areas simultaneously. The following are some of the main characteristics of the "Kollegschulen":

- combined general and vocational teaching,
- combined teaching of practice and theory,
- simultaneous preparation for an occupation and university studies,
- a combination of class themes through the various subjects,
- classes given by teachers from both vocational schools and higher education institutes.

(See Figure 5 – Reformist pedagogical models)

Figure 5: Pedagogic reform models that promote the integration of general education, vocational training and work



integration of work and training

It is evident that not all pedagogical reform models are based on the integration of work and training. It is precisely the student centred focus, involving key skills training, that makes it difficult to faithfully implement the Kerschensteiner work-school model. On the other hand, it could be argued that the negative attitudes towards company self interest shown by some reformist pedagogues has caused criticism in the current debate over the advantages of focusing vocational training more towards the private commercial – industrial sector.

the theme of integration

It is to be hoped that new European Union educational policy will give a higher priority to integration of education and work. In this context, attention should be drawn to series of pilot projects and research carried out in the Federal Republic of Germany in the areas of the integration or double qualification of general and vocational training, with an emphasis on multiple combinations of skills/qualifications. (See Figure 6 – Dual qualifications studies)

Figure 5: Dual qualification studies: combined qualifications

Qualification	Higher education access diploma	
	Specialized higher education entrance certificate	General University entrance certificate
Partial occupational qualification (for example; employed by the Dual System industry)	■	■
Complete Dual System occupational qualification (for example; laboratory technician)	■	■
Technical qualification (for example, a state approved engineer with an electrical engineer qualification)	■	
Occupational qualification as assistant (for example technical chemist's assistant)	■	■

Source: Münch, 1987, p.225

Bibliographical references

> "Secondary Schools and the Transition to Work" Co-authored with Martin Carnoy. Sustainable Development Department, Inter American Development Bank. 1999

> Mainguet, Christine (1999). The Transition from the Educational System to working life. CEDEFOP. Thessaloniki

> De Moura Castro, Claudio / Schaack, Klaus / Tippelt, Rudolf (2000). Vocational Training at the Turn of the Century. Peter Lang GmbH. Frankfurt am Main

InWEnt – Internationale Weiterbildung und Entwicklung gGmbH

Capacity Building International, Germany

Technological Cooperation, System Development and Management in Vocational Training
Division 4.01

Käthe-Kollwitz-Straße 15
68169 Mannheim

Tel.: +49 (0) 621/30 02-0
Fax: +49 (0) 621/30 02-132
tvet@inwent.org
www.inwent.org

InWEnt Mannheim in figures:
former: Industrial Occupations Promotion Centre (ZGB) of the German Foundation for International Development (DSE) Employees: 24 Annual financial budget for international human resource development programmes: approx. 6 million euro; a further approx. 4 million euro per year are made available by federal states cooperating in joint projects Annual number of participants: approx. 950