

**INNOVATIVE APPROACHES TO
TEACHER TRAINING IN VOCATIONAL
EDUCATION IN GERMANY:**

**The Vocational Education Teacher
Training Institute (VETTI) in Cologne**

Report to

German Technical Cooperation (GTZ-CRYSTAL)

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Explanations and Definitions (<i>German expressions in italics</i>) used in the VETTI in Cologne	
Accompanying Program (<i>Begleitprogramm</i>)	Bi-weekly program in each vocational school
Advisory Groups (<i>Beratungsgruppen</i>)	Support groups in vocational schools
Annual Didactical Planning (<i>Didaktische Jahresplanung</i>)	Interdisciplinary planning done by all the teachers in one vocational class at the beginning of the school year
Biographical self-reflection	Starting point of teacher training in Cologne
Cooperative Reflection Counseling (<i>Kollegiale Praxisberatung</i>)	Counseling approach used in Cologne for giving feed back to junior teachers
Economics and Business Administration (<i>Wirtschaftswissenschaften</i>)	Training given in one field-related group
Essentials	Key areas of teacher training covered in courses on general vocational pedagogy and didactics
Extra Curricular Courses	Voluntary courses offered by teacher trainers in Cologne
Field-related Groups (<i>Fachseminare</i>)	Teacher training groups in the field of major and minor of university studies
First State Board Exam (<i>1. Staatsprüfung</i>)	Exam at the end of 4-6 years of university studies for teachers
Future Lab (<i>Zukunftswerkstatt</i>)	Teaching method developed by R. Jung to bring out creative potential in people
Groups for General Vocational Pedagogy and Didactics (<i>Hauptseminare</i>)	Main courses dealing with all aspects of teacher training
Key Qualifications	New requirements to be met in the labor market
Legal Framework of Vocational Teacher Education (<i>OVP und Seminarrahmenkonzept</i>)	Binding framework developed by the Ministry of Education in NRW
North-Rhine Westphalia (<i>NRW</i>)	A state (<i>Land</i>) in Germany
Planning and Development Talk (<i>Planungs- und Entwicklungsgespräch</i>)	Counseling talk with each junior teacher halfway through the program
Peer Groups	Teacher junior teacher groups from different schools and with different backgrounds that meet regularly
Project Groups	Collaborative efforts between teacher trainers, school staff and junior trainers
Reflection Learning (<i>Handlungsorientierung</i>)	New approach in vocational education based on whole cycles of learning
Scenario Technique	Teaching method that can deliver pictures of future situations
Second State Board Exam (<i>2. Staatsprüfung</i>)	Exam at the end of the in-service teacher training
Self-organization	One of the three pillars of the program apart from teamwork and combining theoretical and practical aspects of teaching
Simulated Enterprise Offices (<i>Lernbüros</i>)	Simulation of work in a wholesaling company
Supervised Trial-run Teaching Situations (<i>Unterrichtsbesuche</i>)	Teaching experiments of junior teachers in their schools in the presence of teacher trainers and peers
Teacher Functions (<i>Lehrerfunktionen</i>)	Besides teaching they are counseling, educating, organizing, inventing and grading
Teacher Trainers in the Institute (<i>Haupt- und Fachseminarleiter</i>)	Senior trainers who work both in the institute and in schools
Teacher Training Mentors at Vocational Schools (<i>Ausbildungskoordinatoren</i>)	Trainers at vocational schools who look after teacher junior teachers
Teaching Observation Sheets	Worksheet for taking notes during teaching experiments

Abstract

In response to changes in the world of work and new requirements in the labor markets, new initiatives in teacher training have been launched in Cologne, Germany. The present report is based on the extensive experience of the author in one of these initiatives in the Vocational Education Teacher Training Institute (*Studienseminar für das Lehramt an berufsbildenden Schulen*) there.

The strategy and three components of in-service vocational teacher training - self-organization, combining theoretical and practical aspects of teaching, and teamwork - are described in this report. This approach is in line with current best practice in Germany and illustrates a comprehensive package of interventions in a two-year program leading to a state board exam.

Priority components for training interventions include: institutionalized linkages with key players in teacher training, “essentials” of teacher training, “reflection learning” – approaches (*Handlungsorientierung*), and trial-run teaching situations.

Future teachers in vocational education will have new roles that require working in groups and teamwork: not only as teachers but also as counselors in vocational education, inventors, educators, organizers and administrators.

Monitoring and evaluation mechanisms by teacher trainers as well as junior teachers and vocational schools have been put in place for quality control.

Acknowledgements

This report was written after having worked in the vocational teacher training institute in Cologne for a number of years. It is based on documents and papers that have been developed by all the teacher trainers in the Cologne institute in all the technical and commercial facets of vocational education. However, this report puts the emphasis on my own experience as a teacher trainer in economics and business administration.

In particular the author would like to express his thanks for the guidance and the support received from the Director of the Vocational Education Teacher Training Institute (VETTI) in Cologne, Mr. J.Martin Thees.

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Finally, I would like to thank GTZ for letting me put this report into the CRYSTAL-platform and therefore reach a wide audience interested in German teacher training in vocational education.

Executive Summary– Why You Should Read and Download This!

The enormous changes that have taken place in the world of work in the last 10-15 years have led to the restructuring of vocational education in Germany, putting a stronger focus on “key qualifications”, on techniques of “reflection learning”¹ and on setting up new teacher training programs in vocational education.

This paper describes the results of this restructuring of vocational education teacher training in one State (*Land*) in Germany, North-Rhine Westphalia (NRW), and specifically in the Cologne Vocational Education Teacher Training Institute (VETTI) (*Studienseminar für das Lehramt an Berufsbildenden Schulen*). Many of the practices described are similar in Cologne and NRW and indeed throughout the German *Länder*; however it should be kept in mind that education is a State (*Land*) responsibility and what is described here may not be identical in every part of Germany.

This paper highlights a number of experiences where the VETTI approach could be relevant for other countries that wish to reform their vocational education teacher training systems, including:

- A two-year teacher training program that builds on university studies and internships and focuses on the three essential pillars of cooperation, teamwork, and the use of reflection and self-reflection techniques in meeting new pedagogical, technical, commercial and information technology (IT) challenges;
- Changing needs in labor markets and changing needs in vocational schools which have led to new teacher training programs being planned and developed that are able to deal flexibly with restructuring challenges in vocational education;
- A legal and didactical framework that emphasizes the joint role of **both** vocational schools **and** vocational education teacher training institutes in in-service teacher training and reflects how curricula for teacher training have been revised in the light of the new requirements in vocational schools;
- Organizing in-service teacher training as a collaborative effort among schools, the vocational education teacher training institute, and junior teachers;
- Focus on “key qualifications”, or “essentials”, as they are called in the Cologne VETTI, that will help both junior teachers in their “labor markets” (the

¹ “Reflection Learning” as it is used here refers to the German “*Handlungsorientierung*” and means learning processes that are relevant for learners, that stress comprehensive and joint planning in groups, and that produce planning strategies that take concrete actions and finally evaluate the results. The English term “reflection learning” was to my knowledge first used by SIEMENS – Germany. In the paper “Coaching of Self-Organized Teamwork” (2002), which D. Hermanns did in the GTZ-CRYSTAL platform, it is explained in more detail.

vocational schools), as well as vocational students after graduation in their labor markets in industry, services or agriculture;

- In taking a group and teamwork approach, the VETTI in Cologne succeeded in dropping the spoon-feeding approach in teacher training and instead helping junior teachers to take their own process of “learning-and-becoming-teachers” in their own hands and thus responding in a very effective way to the challenges in vocational education in a changing world of work;
- A heavy emphasis on trial-runs in teaching to meet different objectives throughout a two-year program in a system that uses number of different feedback techniques that combine both theoretical and practical aspects in learning situations that have real-life importance and are fun; and
- Monitoring and evaluation mechanisms established for quality control purposes that provide useful feedback for everyone involved in the teacher training program.

The two stages of vocational teacher training in NRW are described in Chapter 2:

- University studies of 4-6 years in major and minor subjects, as well as pedagogy; and
- A two-year in-service junior teacher training program at a vocational education teacher training institute (VETTI) like that in Cologne², combining working as a teacher in a vocational school with weekly seminars in the major and minor subjects.

The emphasis of the two-year program in Cologne is on shaping each junior teacher’s teaching character, by focusing on the three pillars of: (1) self-organization, (2) combining practical and theoretical aspects and (3) teamwork.

The legal framework for in-service vocational teacher training, set up by the Ministry of Education, is explained and its implications and the main didactical principles for the teacher training program are described (Chapter 3).

Teacher training takes place in different training venues and is divided into: (1) teaching and training in the schools; (2) the Accompanying Program set up by the schools; (3) cooperative training sessions between the institute and the schools; (4) peer group work; (4) and finally, of course, extensive training in the VETTI. All these activities plus extra-curricular work such as pedagogical weeks and project work are described in Chapter 4.

² An average 100 junior teachers are trained in Cologne in every two-year program, in the whole *Land* NRW there are currently about 500 junior teachers in the various two-year programs of all the VETTIs.

Junior teachers have many questions about what to expect in the main teaching seminar. The “key qualifications” for teacher junior teachers in our terminology are known as “essentials”. These essentials are covered in general courses on vocational pedagogy and didactics, mostly within the main teaching seminar, and are illustrated in Chapter 5.

Group work and teamwork are the key instruments of in-service teacher training in Cologne. It is intended to provide a framework of group learning, which is offered in a number of different group settings such as field-related groups (*Fachseminare*), groups for general vocational pedagogy and didactics (*Hauptseminare*), advisory groups, peer groups and project groups. Chapter 6 illustrates who these groups are for, how they are organized and how the work is methodologically carried out such as in “cooperative teaching experience counseling” and “future labs” (Boxes 2 and 3).

Supervised trial-run teaching situations (*Unterrichtsbesuche*) are a central part of the two-year program. These are teaching experiments by the junior teachers where they invite teacher trainers, fellow junior teachers and colleagues from their vocational school to sit in and show the participants where they are at in their teacher development. These situations are key milestones in the teacher training program and 12 of these case-study teaching situations must be completed prior to the exam. What they are, how they can be implemented and what they are good for, can be seen in Chapter 7.

The field-related groups (*Fachseminare*) respond to the academic fields of university studies of the junior teachers. In Chapter 8 the field-related group of economics and business administration (*Wirtschaftswissenschaften*) is presented. Questions that an interested teacher trainer or policy maker might ask are contrasted with answers that I found in shaping my own approach. Annex 3 illustrates the work in this field-related group.

Furthermore, some monitoring and evaluation mechanisms that are routinely used in Cologne during and after each two-year training program are described in Chapter 9. These are carried out together with the teacher trainers and the participating school staff. The junior teachers through the junior teachers’ eyes also prepare written evaluations. Therefore in Annex 6 one reflection by a former junior teacher can be found who finished her training in February 2000 and has been working as a teacher in a vocational college for more than 2 years now since completing the teacher training program.

1. The Challenge of Vocational Teacher Training in a Changing World of Work - Problem Analysis

Enormous changes in the world of work have taken place in the last 10-15 years and they have influenced our way of looking at vocational education and training, and training trainers. National and international labor markets have more and more called for "key qualifications" such as the ability to think in functional matters, to plan precisely, to anticipate difficulties and to implement solutions that truly respond to problems.

Employers all over the world have realized that these "key qualifications", as well as social abilities and communication and organizational skills are more important - and more valuable also in terms of higher productivity levels - to them than just pure basic skills in technical and commercial jobs.

But it is not only the employers that have changed their way of looking at vocational education; it is also our students in vocational colleges who have different expectations when they come to our schools. It used to be that one apprenticeship or training program would be enough for a whole lifetime. A little training and retraining could always be done on the job. This has changed dramatically.

Today, new technical as well as commercial and IT-contents come up almost every year, and the need for recurrent training -if not for second or third job careers - is omnipresent. The solution for many vocational students is to learn how to organize themselves and to organize their own vocational learning and look for teams and patterns of self-organization.

To my own surprise as a trainer with some 20 years of experience, today's students sometimes come with up with far better solutions than we anticipate. That is not because previous generations of vocational students were not as smart as this one, but because current students in vocational education have discovered the enormous potential of teamwork and individual self-organization, and we as trainers are beginning to think more along those lines, too.

These new insights by employers, students, trainers and also curriculum developers have - for example in Germany - led to a vast restructuring process in apprenticeship programs and of German vocational education in general. In vocational education in Germany a "revolution in vocational education" has taken place in the last 10 years and I would like to take the English translation "**Reflection Learning**" first used by SIEMENS - Germany for this phenomenon, which in German is called "*Handlungsorientiertes Lernen*".

"Reflection Learning" stands for learning processes that identify problem situations that are relevant for learners, stress comprehensive and joint planning in groups and come up with strategies that take physical action and finally evaluate the results. This "Reflection Learning " cycle has a number of new challenges especially for us as trainers, namely:

- Curricula need to be revised in light of these new requirements;
- Roles of students and even more so roles of vocational teachers need to be re-assessed and re-defined;
- New methodologies of learning have to be practiced; and most importantly
- New teacher training programs in vocational education have to be developed that respond to the above challenges in vocational education, by:
 - Focusing on the relevance of in-service teacher training programs in vocational education for students, employers and teachers themselves;
 - Forgetting the spoon-feeding of our own teachers and instead helping junior teachers to take their own process of learning-and-becoming-teachers into their own hands;
 - Combining theoretical and practical aspects of teaching in learning situations that have real-life importance and are fun;
 - Making use of team work in teacher training and turning it into a powerful tool for teachers in their vocational schools;
 - Developing new “ways of learning” and setting up new "cultures" in grading and testing, since new testing systems should be consistent with new training systems and compatible with training.

All of the above-mentioned key problems in teacher training in vocational education will be addressed in this paper, and it will be shown how they have been tackled in the vocational education teacher training institute in Cologne, Germany in a very creative and innovative way.

2. The Two-Stage Program in the State of North-Rhine Westphalia (NRW) – From University to In-Service Teacher Training

There are two stages in vocational teacher education teacher training in Germany:

- University studies of 4-6 years in major and minor subjects as well as pedagogy, culminating in the First State Board Exam (*1. Staatsprüfung*); and
- An in-service teacher training program at a vocational education teacher training institute, combining working as a teacher in a school, with a weekly seminar in the major and minor subjects and supervision by teacher trainers in periodic classes. This culminates in the Second State Board Exam (*2. Staatsprüfung*) and final qualification as a vocational education teacher.

2.1. University Studies for Vocational Teaching in North-Rhine-Westphalia

University studies include:

- A major subject
- A minor subject
- Studies in pedagogy

A minimum of two subjects - a major and a minor, for example in economics (80 hours) and English (60 hours) - are taken at universities, lasting about 4-6 years, depending on the student's motivation and discipline. These courses in the major and the minor subject are accompanied by courses in pedagogy (approx. 40 hours). All three (major, minor and pedagogical courses) are tested in the First State Board Exam at the end of the university studies.

Most of the university studies are highly theoretical - consisting of lectures and written tests. Occasionally subjects are combined with didactics and pedagogy, for example the University of Cologne teaches how to develop, implement and evaluate case studies in economics for apprentices in wholesaling.

Some pedagogy courses have started to practice so-called "micro-teaching", where students teach in front of fellow -students and practice teaching as if they were in real vocational schools. These sessions are then videotaped and discussed. Most junior teachers, however, first experience "real life" teaching situations only when they become a teacher in vocational education.

The basic thrust of university studies is still to prepare the students in content knowledge of their academic field. The university studies are carried out in a highly scientific and academic setting at the end of which students receive degrees in the three subjects (major, minor, pedagogy). The degree that they receive is the so-called "First State Board Exam" (*1. Staatsprüfung*). The degree can be compared to a Masters Program, with a First State Board Program having fewer credit hours in the major subject, and more credit hours in pedagogy. The emphasis on pedagogy differs in the various universities in NRW in Cologne, Aachen, Paderborn, Dortmund or Bochum.

As entrance qualification to university studies, students must prove that they have completed *either*:

- A relevant apprenticeship of 2 ½ - 3 ½ years (for studies in economics it is obligatory to have, for example, an apprenticeship in a bank or in an insurance company); *or*
- An internship of one year (for example, for university studies in business administration, an internship in marketing or accounting).

If this requirement has not been completed prior to the beginning of university studies, it must be completed before taking the Bachelor Degree (*Zwischenprüfung*) after the first two years of university studies.

At the end of university studies, four written exams (4-5 hours) are taken in the major, minor and pedagogy, as well as oral exams (45-60 minutes) in each. These result in a grade-point average that certifies the first phase of teacher training at universities.

2.2 The Vocational Education Teacher Training Institute (VETTI) in Cologne

On successful completion of the First State Board Exams, university students become junior teachers by signing a contract with the government of North-Rhine Westphalia (NRW) in which they agree to participate in the two-year teacher training program for the Second State Board Exam. This second phase of teacher training is still considered to be a training program. However, the teacher trainees receive a salary for the next 24 months, which is about 1/3 of the salary received by a full-fledged vocational teacher who has completed the training program and is teaching a weekly workload of 24 hours.

With this contract, the junior teachers join one of the vocational education teacher training institutes (VETTIs) in Cologne, Aachen, Wuppertal or elsewhere in NRW. This paper focuses specifically on the VETTI in Cologne, but practices are similar throughout NRW.

Junior teachers' ages can vary from as young as 26 years old to people in their early 30s, and some have even been in their 40s. This is because in Germany, people do not graduate from the gymnasium (university-track high school) until the age of 19 or 20, after which they must complete a 2-4 year apprenticeship or internship, followed by 4-6 years of university studies. And some have other experiences in their vita, which explains the age spread.

Recently, one-year teacher training programs in vocational education have been introduced in NRW³. This article however will only focus on the two-year program, because it is considered the more solid teacher training program. The two-year program in vocational teacher training in Cologne is oriented around the formula:

³ These programs are in subject areas where teacher shortages exist and require master degree holders to have a minimum of 5 years work experience in a profession (for example economics, computer science, engineering) prior to entering the one-year programs. Adaptations to the two-year programs needed to be made to be able to train these trainees. The main difference to the two-year program is that the emphasis in the one-year program is on going more quickly into the vocational schools and teaching more hours sooner.

<p>Professional Capabilities =</p> <p>Self-Organization</p> <p>+</p> <p>Combining Practical and Theoretical Aspects of Teaching</p> <p>+</p> <p>Teamwork</p>
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What does this mean?

The basic thrust of the Cologne teacher training institute is pinpointed in these three pillars:

Professional Capabilities =

Self-Organization and Responsibility for	Combining Theoretical and Practical Aspects	Teamwork
<ul style="list-style-type: none"> • “own” training • “balanced” training • cooperation and teamwork • for meeting formal qualifications and requirements • meeting one’s own interests and strengthening one’s own capabilities 	<ul style="list-style-type: none"> • critical and constructive use of selected theories and models • continuous dialogue with everyone involved in the program • self-reflection • using reflection techniques and mechanisms • “Reflection Learning” research 	<ul style="list-style-type: none"> • team orientation in schools and institutes • critical and constructive participation in all groups offered in the training institute • participation in all counseling groups offered as well as participation in the mentor system in schools

The bases for the professional capabilities are the solid skills that junior teachers bring with them when they first come to the vocational education teacher training institute, as described above in section 2.1.

- an apprenticeship (2 ½ -3 ½ years) in their field of specialization (for example as a bank clerk); and/or

- an internship (1 year) in their field of specialization (for example in marketing); and
- University studies (4-6 years) in a minimum of two subjects (for example in economics and English).

What is enhanced in the two-year teacher training program are the professional skills needed as a teacher in a vocational school. These are capabilities in:

- **Vocational didactics,**
- **Selecting, reducing and preparing contents,**
- **Selecting and mastering appropriate work forms and media,**
- **Improving professional communication,**
- **Accompanying individual and social processes of students and classes in vocational school, and**
- **Beginning counseling in vocational schools.**

These professional competencies are considered to be of utmost importance in the Cologne institute. To this end self-organization, combining theoretical and practical aspects of teaching and teamwork are the three pillars of teacher training in the institute.

Self-organization

A junior teacher once said, towards the end of the two-year training program:

“In the Cologne vocational education teacher training institute, I have trained myself very well!”

This expression makes it very clear that teacher training in Cologne is trainee-driven learning! Self-organization allows each junior teacher to select his/her own courses (within a certain framework) in the institute, and also to choose which senior teachers and specific classes to work with in their vocational schools. In Chapter 5: "Essentials of Teacher Training in Cologne" this self-organization pillar is described in more detail.

Combining Theoretical and Practical Aspects of Teaching

Junior teachers come to the teacher training institute from a university, with knowledge about respective subjects such as economics and English. Not all of this knowledge will be part of the vocational education curriculum; the trainee must construct courses by selecting the most appropriate content, by reducing difficulties, and by adding pedagogical help in learning.

Junior teachers must have a reflective, experimenting, challenging, interested attitude, and usually want to make it fun for students to learn. They must be able to translate theory into practical learning situations that have relevance for the students and that are interesting and fun!

In Chapter 4: "Organizing in-Service Teacher Training - A Joint Effort", more information can be found about this pillar of combining theoretical and practical elements.

Teamwork

Some of us probably still know the teachers from our own vocational school experience: teachers who not only prepared everything by themselves and were in charge of everything, but also thought that they could do better alone than in a team! This approach is the opposite of the one at the VETTI in Cologne.

The Cologne motto on teamwork is:

“Every junior teacher has the right to be supported by the group as much as the group has the right to be supported by each junior teacher.”

Teamwork in the Cologne teacher training institute is given a very high importance. Groups are used in numerous forms, in all phases of the teacher training. Since this pillar of teacher training is considered so important, a separate chapter is written about it, Chapter 6: Working in Teams.

3. Legal Framework and Principles of the Program

This chapter first explains the legal framework for vocational education teacher training (*Seminarrahmenkonzept und OVP*) and its implications, such as

- Number of case study teaching situations;
- Primary responsibility for the schools for teacher training;
- Importance of self-organization and teamwork; and
- State board examinations.

Secondly, the central didactic principles of the in-service teacher training program in Cologne are given. These are assumptions about the learning process of new teachers in vocational education.

3.1 The Legal Framework of Teacher Training in NRW, Germany - Teacher Training Regulations and State Board Exams

The teacher training program in Cologne (as well as all other programs in that State (*Land*)) is governed by a legally binding framework (*OVP = Ordnung des Vorbereitungsdienstes und der Zweiten Staatsprüfung für Lehrämter an Schulen*) and a more specific legal instruction for teacher training (*SRK = Seminarrahmenkonzept*) developed by the Ministry of Education of the State Government of NRW (*Ministerium für Schule und Weiterbildung der Landesregierung von Nordrhein-Westfalen*).

The *OVP*, which is both a law and a kind of master plan for teacher training, regulates the following aspects of the 2-year training program:

- First, there is a call for junior teachers to take on a high level of self-organization and responsibility for their own training. The training itself has certain elements offered in a structured way within the teacher training institute. However, in Cologne the trainees have the right to pick those elements or essentials (see Chapter 5) that fit their own training needs best.
- Secondly, junior teachers must start teaching independently (i.e. without supervision) 6 months after their training begins, and thus participate actively in daily school life.
- Thirdly, vocational schools and their staff are given a high degree of independence and responsibility in training new teachers in everyday school life and also in setting special programs monitored by teacher training mentors (*Ausildungskoordinatoren*) in each school.
- A minimum of 6 trial-run teaching situations (see Chapter 7) in each of the two subject qualifications of a teacher (e.g. economics and trade, home economics and English) must be completed during the 2-year-programme. This makes a total of 12 experiments in which trainees invite senior teachers and teacher trainers to sit in and advise on the lesson itself as well as on written lesson plans for those case studies. These lesson plans had been prepared by the trainees beforehand and document the methods chosen, the didactical path as well as the objectives for this very lesson.
- Furthermore, a “Planning and Development Talk” (*Planungs- und Enwtwicklungsgespraech*) is required halfway through the training program. A colloquium with teacher trainers from the VETTIs as well as mentors from the schools is held, not as an exam, but to look back as well as forward and to serve as a counseling mechanism for the junior teachers.

Finally, at the end of the two-year-program the junior teachers must undergo the Second State Board Exam:

“The State Board Exam verifies if and to what extent the teachers have participated in the two-year vocational teacher program and gives an accreditation to the candidates in form of a grade.” (§ 52 OVP, Accreditation System for Teacher Training).

Senior teacher trainers from teacher training institutes and mentors from the vocational schools grade the Second State Board Exam. The Exam is composed of three parts: A written thesis, two case study teaching situations and a colloquium.

First, a written thesis must be submitted. The thesis must be written in one of the two subject qualifications of the junior teacher and must be related to their own teaching experience in their vocational school. For example, a teacher with a university degree in economics might choose to write a thesis on **“Planning, Carrying out and Evaluating a Teaching Sequence With Apprentices in Industrial Management on How to Set up a Marketing Project for the new Ford Fiesta in NRW”**. Theses are written towards the end of the two-year – program, simultaneously with junior teachers’ regular teaching, seminar work and so on. The thesis typically documents a sequence of 3-8 hours that the trainee has actually taught, with the planning, teaching, grading and evaluation aspects each documented. Theses usually range from 30-50 pages in length and are graded by teacher trainers from the Cologne institute as well as teacher trainers from other institutes.

Secondly, two case study teaching situations in the two different subjects of each trainee must be presented as an exam, in which senior teachers as well as trainers from the teacher training institute sit in and assess the accomplishments. For example, in an economics class for bank clerks (*Bankkaufleute*), **“The importance of economic growth for an active income distribution policy in Germany”** might be a trial-run teaching situation while in a business administration class of a Commercial College for full-time students going for the final degree in secondary education (*Handelsschüler*), a teaching situation on **“We develop employment criteria and plan a job interview for an apprenticeship post in a supermarket”** might be presented.

Finally, the exam includes a colloquium with the teacher trainers and coordinators from the respective schools on teaching and training aspects. A typical colloquium in Cologne presents students with a hypothetical but concrete teaching exercise targeted at a specific learning group.

Hypothetical Questions in a Second State Board Exam Colloquium

“A new three-year vocational school career track (*Bildungsgang*) in wholesaling has just been established at your new school. How would you plan, carry out and evaluate an excursion with first-year students to the regional market leader in paper products, using reflection learning methods with your students?”

or

“How will you plan your new subject, general business administration (*Allgemeine Wirtschaftslehre*), for apprenticeship classes of IT –clerks, keeping in mind that you want to include as many projects as possible with other colleagues and other subjects such as mathematics, computer programming and systems operation!”⁴

The State Board Exam is graded by teacher trainers from the VETTI, teacher training mentors from the vocational schools and representatives from the Ministry of Education. The results of the different parts of the state board exam are weighed differently and compiled into a grade point average that indicates the quality of the junior teacher, who is now a qualified teacher. He or she can then apply for a job with the Ministry of Education in NRW in a vocational college of his or her own or the Ministry’s choice. In the last few years some changes have been made inasmuch the vocational schools also have the right to employ trained teachers in vocational education directly. This is an additional incentive for schools to do their best during the two-year training, since they can then retain good people that have got to know the school very well⁵.

3.2. The Didactical Principles of the Teacher Training Program in Cologne

The didactical principles of the teacher training program in Cologne are based on assumptions about learning processes in adults and have a profound influence on the institute setting for teacher training.

⁴ This kind of planning is called Annual Didactical Planning in vocational education in Germany.

⁵ The framework for all the teacher training institutes in NRW is provided by the *SRK*. Compared to the *OVP*, the *SRK* is a more specific legal instruction for teacher trainers and it lays out teaching standards for future trainers, describes functions of a good teacher in vocational education, stresses the importance of reflection learning, describes possible methods in vocational schools and emphasizes the importance of a training program, where the different actors in teacher training (vocational education teacher training institutes, schools, mentors and industry) work together as much as possible.

Assumptions About the Learning Process of Young Teachers in Vocational Education

The Cologne vocational education teacher training institute "philosophy" is based on a number of assumptions about learning of junior teachers. These are

- Adult trainees come to the institute because they have an interest in learning; they want to improve and are highly motivated (naturally they also come to the institute to obtain the degree!);
- The institute confronts trainees with reflection patterns that might be new to them. Their prior experiences and their biographies may have "biased" them in their way of looking at learning processes;
- We assume that learning to become a teacher is a unique experience for everyone and requires permanent exercise and reflection (principle of utmost individualization of learning);
- Very often young trainees ask for models and ready-made solutions. However, the teacher trainers in the Cologne institute also propose learning in uncertainty and advocate trying ways that fit each individual best;
- Teacher training is not like pressing skills through a funnel, assuming that ready-made teachers come out! On the contrary, it is an ongoing process that can be initiated, challenged, supported, provoked, accompanied - in other words, supported, all along;
- Principle of reflection learning: learning should be related to real-life and problem situations;
- Principle of reversibility in learning and teaching: teachers are learners but learners can be teachers at times; both can mutually benefit from one other;
- Principle of self-organization and individual responsibility in teacher training: Trainees take responsibility for their own development of
 - ✓ Curricular-didactical competencies,
 - ✓ Methodological-communicative competencies and
 - ✓ Pedagogical-social competencies;
- Learning how to become a teacher works through networks and team work plays a very important role in this;
- Principle of vocational and life background: Learning in vocational schools should always be related to the work and life experience of our students and should always keep that in mind;
- Principle of life-long learning: The in-service teacher training institute is only the first phase in teacher training, to be immediately followed with further teacher training (which in NRW is given on the job and is organized by a separate training body)!

4. **Organizing In-service Vocational Education Teacher Training in an Institute - A Collaborative Effort Among School Staff, VETTIs and Junior Teachers**

The organization of the two-year training program is a major logistical challenge, requiring a lot of coordination and understanding throughout the two years among the various partners:

- Junior teachers;
- Vocational school staff; and
- Vocational education teacher training institutes

It is the VETTI that organizes the work and sets the organizational framework.

The phrase “Dual System” describes the system of Germany apprenticeship training which takes place both in vocational schools as well as in companies. In a way this expression does not only refer to the German apprenticeship system, but also to its teacher training.

This is because training teachers in vocational schools **and** vocational education teacher training institutes is influenced by the aspect that institutes and schools both look at themselves as training grounds for junior teachers and are prepared to open up learning arrangements for the junior teachers.

This chapter describes where the different parts of training (*Ausbildung im Studienseminar = Hauptseminar und Fachseminar, Praxis in der Schule, Begleitprogramm, kooperative Ausbildung in Seminar und/oder Schule und Peergroup*) take place in Cologne, and how many hours are allotted to each part of the training. Later, Chapter 7 goes into more detail using the example of training in economics and business administration (*Fachseminar Wirtschaftswissenschaften*) to illustrate the various aspects of organization.

Training takes place in vocational schools as well as in the teacher training institute. The training is divided into:

- Teaching in schools as well as other activities there (such as conferences, open houses, excursions, teacher-parent-days, etc.)
- Accompanying Program;
- Cooperative training sessions between institute and schools;
- Peer group work; and
- Training in the teacher training institute.

The following table shows the various training and venues, hours spent and frequency over the 24-month program, and where they are covered in this paper.

Table 1: Organization of Teacher Training

Training Type and Venues	Total Hours	Frequency	Where in this paper
Teaching and other Practical Elements in Vocational Schools	825 teaching lessons	12 hours per week (6 in each subject)	Chapter 7 - Case Study Teaching
Accompanying Program	70 hours	2 hours bi-weekly	Chapter 6 - Advisory Groups
Cooperative Program between Institute and Schools	100 hours	Once or twice during the two year program, intensively over a period of 6-8 weeks, once a week a whole day in the schools	For examples, see Boxes 3 and 4
Peer group work	20 hours	For example 5 times 4 hours	Chapter 6 - Working in Groups
Training in the institute (In Cologne there is one fixed seminar day and on this day the trainees get all the three seminars listed in the right column)	440 training hours	Field-related group 1, e.g. Economics: 120 hours (2 hours/week) Field-related group 2, e.g. English: 120 hours (2 hours/week) General Vocational Pedagogy and Didactics: 200 hours (3-4 hours/week)	Chapter 5 - Essentials Chapter 7 – Trial-run Teaching See also Boxes 1 and 2

The whole training period covers 1455 hours in the entire two years or roughly 25 – 30 hours a week, depending on the schedule of the various group activities. This does not include, however, preparation time, self-study periods, participation in extra-curricular activities and homework assignments.

A typical weekly schedule for a trainee in school and institute might look like this:

Table 2: Typical Weekly Schedule of Junior Teachers

Monday	Tuesday	Wednesday	Thursday	Friday
8-12 General Pedagogy and Didactics In Vocational Education Teacher Training Institute (Essential 1: Biographical Work)	8-10 Teaching English in a Full-time Commercial College Class (Case-study teaching situation, supervised teaching) 10-12 Observing teachers in their classes in labor economics	8-10 Teaching in Business Administration in Wholesalers Classes: Aspects of Contract of Sale (unsupervised teaching) 10-12 Observing Teachers in Teaching Business Correspondence	8-10 Observing Teaching Grammar in English Apprenticeship Classes of future Bank Clerks 10-12 Teaching Income Distribution Policies in Apprenticeship Classes of future Industrial Managers (<i>Industriekaufleute</i>), unsupervised teaching	8-3 Cooperation between Institute and School: Participation in Future Lab Experiment (see Box 3) in a Vocational School with Junior Teachers, Teacher Trainers, Senior Teachers and Classes
1-2.30 Field-related Group1: Business Administration (Planning a Management Game)			1-3 Peer Group Work	
3-4.30 Field-related Group2: English (Teaching English Literature)		3-4.30 (Bi-weekly) Accompanying Program in Vocational School		

In addition, there are so-called pedagogical weeks, once or twice during the training programs. These are held outside the institute venue and are prepared, carried out and evaluated by the trainees. The topics in these pedagogical weeks are related to subjects of general interest for vocational schools. Past pedagogical

weeks for example have dealt with how to use gestalt therapy in vocational education or how to prepare a week of project work in a vocational school.

Furthermore, teacher trainers in the institute offer special voluntary courses, related to the "essentials" described in the previous chapter.

One of these extra courses offered in the institute in Cologne is POLIS.

Box 1: POLIS (*Politik und Internationale Sicherheit*) - A Strategy Game for Teaching International Economic Policy and International Security

POLIS is a multi-functional game that reflects the world situation politically, economically and militarily. The structure of the game is marked by the world being divided into 11 regions (Africa, Asia, Western Europe, Eastern Europe, North America, South America, China, Russia, the Arabic Countries, Japan, Oceania). Each region has a certain starting position, which is based on its present resources and its economic and military situation. Economically four goods are being produced or are found in this region: industrial products; agrarian products; energy and natural resources such as gas, oil and coal; and the potential for renewable energies.

The aim of the game is to develop global and regional strategies that *either* allow one's own region to prosper without any other region suffering overly; *or* - even better - to lead the entire world into a more peaceful situation. Each region is played by a minimum of 2 players, and up to 4 players can easily play per region to fill all the roles (a politician, an economist, a military player and an opposition player trying to topple his own government). The tasks for each player are handed out before the game; present international contracts are made available to the players; a huge world map illustrates the regional economic and military situation.

Roles can change during the play when players start identifying too much with their own role, though. In addition, there are players to play the World Bank, the international press and the international moderators. Two moderators are sufficient for playing the game.

The game is a true simulation of the world situation and it is based on an econometric estimate of the world situation. For such a complex game enough time should be allowed to play through a scenario: A minimum of 2 days is required, 3 days are better. The game is divided into phases of 2-3 hours in which specific political, economic and military decisions can be made. The consequences are discussed at the end of each round in an international round where each politician has to give a speech in front of the United Nations Security Council and defend his/her specific approach. International Committees and Conferences can be called in to discuss crises in world politics and world economics. Military conflicts can be set up and then have to be dealt with in the

game.

The game gives junior teachers a good overview of how to bring a big crowd of learners together and practice self-oriented teamwork. Various subjects are covered such as economics, international policy, German (giving speeches and negotiating) and English and French (e.g. World Bank can be played in English, Africa for example partly in French) in a truly interdisciplinary way.

Junior teachers in Cologne liked this game so much that they started using it themselves in their respective vocational schools.

5. Teaching the "Essentials" in the Main Seminar in Cologne – what Junior Teachers Should Expect

"Essentials" in Cologne are considered the key areas to be covered in teacher training and this is why they are covered in the general courses on pedagogy and didactics (*Hauptseminare*). In blocks of approximately 20 hours they are offered to the trainees in different periods of the two-year program. The trainees document these "essentials" in their Teacher Training Reference Book (see Annex 1).

Of course, all the essentials are being fed with the latest literature as well as with texts and sheets from the relevant ministries for vocational teacher training in Cologne in the State of NRW in Germany.

These major in-service training elements within the teacher training center are mostly completed in the institute itself. They deal in different phases of the two-year training program with the following (trainees') questions and statements:

5.1. Why Do I Want to Become a Teacher in Vocational Education?

In this essential it is most important that the trainees realize that their own history had an impact on their becoming a teacher now. Trainees must come to terms with the fact that their personal experience has shaped their "teacher profile" and they must - with regard to their future development – be open to improve their teacher personality in the two-year training program.

A course "biographical self-reflection" pursues the understanding of his or her own biography and tries to make it transparent to each trainee.⁶ Methods used in this course are based on psychological counseling and cover for example things like painting, acting, and doing fantasy journeys, just to name a few of the approaches.

⁶ By the way, some trainees have also used this course to reflect about other settings in their lives outside the teaching occupation.

A first important part of this essential is done in the first week, before the trainees even see their vocational schools for the first time. After this one-week basic training course at the very beginning of the program, a two-day further training workshop at the end of the two-year program is carried out together with the schools. This further training has the objective of contrasting the intentions of the junior teacher in the first week, with his/her achievements and developments within the whole program.

5.2. How Do I Define My Own Didactic Concept?

Of late, vocational schools in Germany have been asked to take over more responsibility, act more independently and work in a more self-conscious and team approach. These principles also apply when it comes to developing one's own guidelines for didactic work. The VETTI in Cologne teaches that teachers must develop their own didactical strategies. Naturally they have to relate to professional profiles, curricula and board exam requirements. However, the objective is for teachers to experiment with different didactical approaches and in the end to find their own way. This "way" is then in turn more than a mere strategy for planning lessons.

Training work in didactics puts trainees into the situation of students and encourages them to develop lessons that are age and school career appropriate. For example, the "Economic Principle" as a subject must be presented differently in an apprenticeship class for future bankers than in a class for full-time commercial college students (*Handels- oder Höhere Handelsschüler*).

Moreover, in the institute it is believed that curricular content must be translated into lesson topics that will strongly interest and stimulate these particular students: For example, which lesson topic is more likely to motivate learning: "The Equilibrium Price in Quantitative Theory"? Or "The Price Does it – We are Setting a Sale Price for our own Students' Newspaper" - after the students have been through planning, designing, advertising for and preparing the lay-out of their own newspaper in previous lessons in economics and business administration!

Questions that junior teachers have, such as:

- How do students learn and what needs to be done to support this?
- What is the teacher's (hidden) agenda in defining content, for example in economic policies such as the ecological tax reform in Germany?
- What is the general vocational and educational mandate of my school?
- Where may the students have been exposed to specific contents before this lesson (e.g. teaching marketing implies thinking before the lesson where the students have been exposed to it already)?
- What is the relevance of this specific topic for my students in their future? For example, when I teach the contract of sale, how does this relate to my students in apprenticeship classes or full-time students who have never had work experience?

- How can I make content very concrete and tangible? What should the examples look like and how do I structure the lesson so that my students are motivated?

are all dealt with in a variety of didactic sessions.

The development of the didactical concept of each junior teacher is an essential that has a very high importance and it is greatly emphasized and that is why it takes part in the first quarter (i.e. the first six months) of the teacher training program. In a way, all the other later essentials have a supporting function for this one.

5.3. Selecting Methods That Fit Me!

The objective of this essential is to build up methodological competencies in junior teachers by presenting different kinds of methods that can be used in teaching. In Cologne this is done by teacher trainers using methods in their own groups for vocational pedagogy and in field-related courses, or by demonstrating methods in teaching in schools, and also in conferences, workshops and exam situations.

What is very important in the VETTI philosophy is that the trainer – unlike in some cultures where the role of the trainer is seen with an authoritarian touch - is seen as a moderator in learning processes for self-organized team work and his job as a coach is to make sure that permanent communication takes place among the participants. To this end it is so important that junior teachers learn how to get these competencies.

The junior teachers will perceive the content of this field of learning “methods” as an experienced work form, in other words they will see methods in their training program as carried out by their teacher trainers, their mentors in the schools and others. This is considered particularly important, because methods are believed to be used better after having seen them in operation first before attempting to use them in one’s own setting.

In the first step, trainees learn what is considered the basic repertoire in teaching in vocational education for example

- Phasing a lesson;
- Using group and partner work in a class comfortably;
- Motivating different groups of learners;
- Preparing different kinds of learning arrangements;
- Steering class activity;
- Offering patterns of learning; and
- Reflecting and debating together with vocational students.

As time goes on, junior teachers are confronted with increasingly sophisticated methods such as complex case studies, projects, moderation cycles, future labs and scenario techniques. To demonstrate the more advanced methods, close cooperation with the schools is sought by the institute.

5.4. Professional Communication – How Do I Implement This in Class?

Studies show that it is still the case in vocational schools in Germany that 60-80% of all the words said come from the teachers rather than from the students. It is no wonder then that some students graduate with communication deficiencies.⁷

Therefore it is regarded as very important that junior teachers reassess their communication competencies and come to a professionalization of their communication skills in the light of the above. Reflection and diagnosis competencies of teachers are supported in this essential.

The content in this area is therefore to

- Learn to be able to take a role in discussions;
- Structure the tasks;
- Listen actively and carefully;
- Provide and receive feedback; and
- Summarize results in groups.

When referring to professional communication, it is always better done than talked about. This is why in the institute, communication exercises are offered in a variety of situations. A very handy and vivid tool in improving professional communication is certainly the video recorder to provide feedback after videotaped sessions. This tool is used a lot in VETTI.

5.5. Working and Learning in and with Groups

Junior teachers teach in ever changing groups, they work in different conference and project groups and they have to adapt to new groups all the time. The objective in this essential is for trainees to become more and more aware of group processes and increasingly capable of actively steering, promoting and evaluating group processes.

Five different group settings are offered in the VETTI in Cologne:

- Field-related groups for each of the two academic fields of the junior teachers;
- Groups for general pedagogy and didactics for dealing with the essentials of teacher training in vocational education;
- Advisory groups for work with the vocational school staff;
- Peer groups of junior teachers for exchange of information and experience; and
- Project groups for specific cooperation among junior teachers, school staff and VETTI.

⁷ Of course, communication skills are also dependent on class and educational level of parents.

The group work focus as it will be shown below in Chapter 6 is one of the key elements in the Cologne teacher training approach. Junior teachers are supposed to feel comfortable in their own learning groups as well. A lot of work is done with group dynamic approaches.

In a basic training phase, those trainees who have not had experience in youth or social groups are put together so that they can become better acquainted with the typical phases of group processes. In a further training phase, trainees can select from the following:

- Group lessons: initiating, accompanying, wrapping up and evaluating group work phases of students
- Group intervention methods
- Observing, steering and reflecting social processes and
- Improving social behavior and team competencies of students

5.6. Media – More Than Just Learning Devices

In the VETTI in Cologne it is the goal to use media when they are justified for learning with the junior teachers and their usage in schools should be derived from their usefulness and necessity for learning with vocational students. We consider media useful and necessary, when the following criteria are met:

- Media are tools in a process of getting students to learn better;
- Media are no means in itself;
- Media can be used to shape the problem analysis in a lesson;
- Media can be used to better visualize solutions and show transfer of competencies gained in the lessons; but also
- Good media usage alone never makes good teachers!

In principle, media should be selected or prepared by the trainees themselves (if possible). The content of this essential is *how* and *when?* to use media such as blackboards, overhead projectors, information sheets, school books, flip charts and others. Using media is considered to be part of the job and every trainee should be comfortable using these.

In a further step in this essential, some field-related groups usually produce their own media, such as videos and CDs. However, media production is seen as a side product of this essential and it is only done, if enough time for this can be provided within the VETTI.

Junior teachers should be able to handle media comfortably and this is also why the institute puts emphasis on dealing with more sophisticated media in vocational schools. This is the reason why the “European Internet Driver’s License” is expected from students at the end of their training, as is the ability and the willingness to experiment

with other media. Video can be used in school, it can also be used to tape case study teaching situations and discuss them afterwards vis-à-vis the following video usage criteria for trial-run teaching situations, such as:

- Organizing recognizable phases in teaching;
- Setting up learning arrangements for the students;
- Communicating with students;
- Using different strategies to make students participate;
- Promoting competencies in teaching situation;
- Dealing with disruptions in class;
- Relating with the students (such as appreciation and understanding).

Last but not least, Cologne has the reputation of being the City of Media in Germany because so many media, television and radio companies are based there. In teacher training and also in every day vocational education, this often provides opportunities to work with the apprenticeship program of “Media Clerks” in Cologne on a very high technical level.

5.7. Making Assessments and Judgments as a Teacher

Every one of us has had the experience in school of how painful it can be when we felt that our teacher did not grade us correctly! Now the junior teachers change sides and for the first time they have to grade, too.

In this essential the junior teachers learn how to put together written tests and check achievements in

- Learning;
- Methodical; and
- Social competencies.

In this essential structured help is given to the junior students as to how to

- Set up tests covering the same topics for different age groups;
- Cover all the competencies laid out in the previous lessons;
- Deal with the aspect of turning competency achievements into “gradable” tasks;
- Return tests with a maximum of “learning” to all the students in the class.

However, it is not only the grading that they learn: at least as important seems to be learning how to support and promote those students who have not done so well. Special emphasis is given ways to deal with underperformers in vocational classes and how to get them back into the “main stream” of learning.

In other words, trainees learn how to put together written tests, grade them and return them to their class following certain guidelines. They learn – with the help of teacher

trainers and senior teachers in schools - how to develop alternative grading procedures, for example when it comes to making assessments about group or project work⁸. And they develop criteria on how to assess and judge reflection learning of their students, using qualitative criteria in measuring different competencies.

They learn about typical misjudgments of vocational teachers, and they learn how to prepare written reports about students and how to defend them in grading conferences in their schools.

5.8. From Advice to Counseling – An Important Difference!

We all have given advice in our lives here and there and some of us are even paid for that as consultants! However, counseling as understood here goes beyond advice. Counseling starts a process that is not only learning to give advice, but also convincing people to accept it. At the end of this process, the trainee should be capable of giving advice to others in such a way that those on the receiving end are capable of integrating it into their repertoire.

The objective of this essential is to build up counseling competencies in the junior teachers that enable them to carry out their counseling tasks in school professionally. One thing is helping students find their way through the jungle of possible school careers in vocational education, and this is among other counseling opportunities in daily school life one that is appreciated very much by the junior teachers.

In this essential, junior teachers learn the basics of systemic counseling, cooperative reflection counseling (*kollegiale Praxisberatung*, see Box 2) gestalt therapy, and elements from the neuro-linguistic programming, NLP, counseling approaches.

In Cologne, once again, the thrust is learning counseling through actually doing counseling, and so many life-counseling situations are offered in the institute. Furthermore, the school as the learning venue for counseling is used a lot e.g. counseling parents, other teachers, firms and of course students.

5.9. Completing the Teacher Functions with Administrating and Organizing

Daily administration and organizing duties shape the routine work of our vocational teachers. The objective of this essential is to prepare them for basic administrative and organizational tasks, such as running a class journal, informing students about vocational school laws, understanding legal aspects of being a teacher and the legal results of misjudgment and misbehavior, telling students about cooperation opportunities with training companies, encouraging junior teachers to participate in school profile development, and the like.

⁸ For those interested in measuring group or project work, you will find an example of how group work can be graded creatively with the help of the “fish bowl method” in Chapter 8!

In addition, junior teachers are trained in forms of self-organization in school. They receive guidance in organizing class trips and how to work with parents and other partners in vocational school life.

6. Working in Teams – An Important Self-Organized Planning Tool

Group and teamwork is one of the key instruments of the VETTI in Cologne. The reason why this is advocated so much in Cologne is that the teacher trainers there believe that groups provide an excellent framework for junior teachers to:

- Benefit from synergic group effects and the number of opinions expressed in each group;
- Communicate with others about their own theories and models in didactics and methods;
- Search for clarification within familiar groups and support others in this quest;
- Activate energy to turn their group into their “Pedagogic Home” and develop gradually their professionalisation; and
- Find comfort and support in their own peer group and help to provide a special learning climate within the group.

These objectives are tackled in the Cologne teacher institute through a number of organized groups as well as with spontaneously- organized groups, including:

1. **Field-related groups (*Fachseminare*)**
2. **Groups for general vocational pedagogy and didactics (*Hauptseminare*)**
3. **Advisory groups (*Beratungsgruppen*)**
4. **Peer groups**
5. **Project groups**

1. With the beginning of teacher training for vocational schools, trainees start two **field-related groups (*Fachseminare*)**, which are related to those two subjects where they got their university degree in, for example a so-called First State Board Exam in Economics and English. In Cologne a number of vocational subjects are offered alongside with so-called general ones for field-related group work.

Some vocational subjects offered in the VETTI in Cologne are:
Economics and Business Administration (*Wirtschaftswissenschaften*), Banking (*Bankwesen*), Insurances (*Versicherungswesen*), Trade (*Handel*), Taxes (*Steuerlehre*), Home Economics (*Hauswirtschaftslehre*), Food Technology (*Lebensmitteltechnologie*), Automation Technology (*Steuerungstechnik*), Automotive Technology (*Kraftfahrzeugtechnik*), Production Technology

(*Fertigungstechnik*), Electronic Engineering (*Elektrotechnik*) and IT-Technology (*Wirtschaftsinformatik*).

In the so-called general subjects German, English, French, Political Science, Sports, Physics and Spanish, among others, are found.

Each of the two subjects is offered once a week for two hours. For heavily frequented subjects (for example economics and business administration in the 1998 training program had almost 70 trainees), several groups are in place. For each group, one teacher trainer is in charge throughout the whole two-year training program. In any case, the size of each of the field-related seminars should not exceed more than 15 participants because of group dynamics and learning economies of scale.

2. When the new teachers join the vocational education teacher training institute at the beginning of their two-year training program, a number of **groups for general pedagogy and didactics** (*Hauptseminare*) are built by the teacher trainers and course work following the “essentials” (see Chapter 5) is developed by them. These courses are usually offered once a week for 3-4 hours and last 6-8 weeks and the trainees can pick those they like with the individual trainers that handle them. These courses cover all the "essentials" considered necessary in the Cologne institute and the trainees get to know different teacher trainers in their respective teaching styles. Furthermore with the learning groups changing every 6-8 weeks, the trainees also get to know many different fellow junior teachers at the beginning of their training.

After about 1/3 (=8 months) of their training period, trainees choose their teacher trainer in charge of general pedagogy and didactics for the rest of the training. This teacher trainer (*Hauptseminarleiter*) then is in charge of accompanying the trainees through the rest of their training and preparing his/her own group for the exam situation. These teacher trainers work very closely with the ones in the field-related groups (*Fachseminare*) and are also invited to visit case-study teaching situations (see Chapter 7) of their trainees. Moreover, these teacher trainers write the final reports (which summarize the trainee's development in the two-year program and finish with a grade) and are present in the final state board exams. Evidence has shown that the junior teachers are very happy with this reliability and certainty in the last two thirds of their program.

3. **Advisory Groups** (*Beratungsgruppen*) are put in place together with the vocational schools. The objectives of these advisory groups are to give advice to each other in a specific school setting as well as discuss teaching situations in various parts of a vocational school. The VETTI in Cologne has drafted a contract with each vocational school in and around Cologne that participates in vocational teacher training to specify the cooperation between them as to what each vocational school is willing and capable of doing.

Usually the schools agree to setting up advisory groups (or so-called newcomers groups). Junior teachers (depending on the school, varying from as little as 2 to 7 or even in some cases more than that) from one vocational school are put together in these groups. A specially nominated teacher training mentor (*Ausbildungskoordinator*) from each school invites and chairs meetings that can be held bi-weekly or once a month, with 1 hour a week of this kind of group work counting as credit for the teacher training program. All of these activities at the schools are called the Accompanying Program and this program is monitored and evaluated by each school.

A special method is proposed for these advisory groups by the VETTI in Cologne, which is called “Cooperative Reflection Counseling” (*kollegiale Praxisberatung*).

Box 2: “Cooperative Reflection Counseling” (Kollegiale Praxisberatung) – Problem Solving in Teacher Training Using Group Synergies

This counseling approach has been developed in the Cologne institute and is used frequently there. It is practiced with junior teachers and senior vocational teachers as well as with teacher trainers. Cooperative Reflection Counseling is structured in six phases plus an agreement both at the beginning and at the end.

The agreement at the beginning sets the tone for the counseling and identifies seating arrangements, regulates meeting frequency, promises total discretion and agrees on the moderators.

In phase 1, the group identifies a problem within the highest priority. To that end it is important that every participant is clear about what kind of counseling they need for themselves and that the moderator lets the group decide which person’s request it wants to deal with.

In the second phase, the person whose problem is taken up explains his/her specific situation and why the problem is so urgent. Certain questions can help identifying the problem in this phase, such as:

- What happened?
- What are my thoughts?
- What is my problem in this?
- Whom does this intimidate other than me?

In phase 3 the person seeking counseling gets feedback from the rest of the group. The participants usually give two kinds of feedback; one is the so-called “outer perception” relating to verbal expressions, language used, pitch of voice, interaction (*Appell, Selbstoffenbarung, Beziehung*), and also relating to non-verbal expressions such as gestures, mimics, body language etc. The other perception level is called “inner perception” and relates to the participants of the group and

their reactions, feelings, images, fantasies after listening to the person that is seeking counseling. The protagonist gets the chance to respond to the feedback.

Phase 4 raises other perspectives and multiple meanings that result from the problem layout. The participants come in with sentences like

In your position I would ...

I make the hypothesis that ...

I have a wild thought ...

It is important in this phase that everything goes and nothing is forbidden!

In phase 5 the whole team develops alternatives. Helpful are sentences like “I as the teacher, ... student, ... teacher trainer, ... director, ... mother, ... chamber of commerce representative would do ...”. The group is supposed to come up with a lot of alternatives and new patterns. The protagonist should then pick out what suits best and also give a feedback to the group.

In phase 6 the protagonist decides what is good for her/him in that situation and which alternative will be taken over in his/her repertoire. A role-play trying out these new habits at the end of this phase is good for exercising new patterns before going out into school routine again.

The final agreement is always helpful for the protagonist, because a certain degree of commitment is made. A sentence like “I am going to try it out and I will let you know next time!” is good when it is wrapped into questions like:

- Who does this with whom?
- What exactly do I want to do?
- How do I want to do it?
- When and where will I do it?

I have personal memories of the following counseling situations in which cooperative teaching counseling was practiced and interesting new patterns were developed:

- A teacher trainer seeking counseling, because he had a junior teacher in his group who was absolutely resistant to counseling in case study teaching situations;
- A trainee who had the impression that her teacher trainer in economics would never appreciate her work in creative methods, but would rather criticize her for lacking didactic considerations;
- A training coordinator at a vocational school who had difficulties with trainees in her school who would not open up their thoughts before going into case studies and thus were repeating the same mistakes all over again.

4. Experience in Cologne has shown that junior teachers in vocational education benefit a lot when they are grouped together with **peers**, i.e. junior teachers from different vocational schools and not necessarily always with the same technical backgrounds. These people meet regularly in groups of 4-6 and discuss best practices they have seen or done themselves and find patterns of why things work in some settings but not in others.

These groups can pick issues that are relevant for a specific vocational school such as for example how to handle learning resistances of full-time students in Commercial Colleges (*Handelsschulen*). The students in these schools are usually between 16 and 18 years of age and have not completed a secondary school; they also very often do not have the best chances in entering the labor market after graduation.

The peer groups can also select issues that are of a more general nature such as preparing for a teacher's conference or for a parent-teacher day at a school or something for an open house of the vocational school.

The participants can choose the number of meetings. Some formal things, however, such as the obligation to write minutes of each meeting as well as a minimum peer group duration of 20 hours throughout the two-year program are required. Evidence shows that trainees are very comfortable with this group and even tend to spend much more time working like this.

5. **Project groups** round up the group learning approach in Cologne. These project groups are put into place, when specific cooperation is called for, such as supporting and promoting the idea of reflection learning, or using teaching methods in vocational training that require special arrangements.

These project groups are in place for a minimum of 6 weeks and work very closely with the vocational schools. Ideally, cooperation among a group of junior teachers and one or two teacher trainers from the institute, a vocational school class and one or more of their teachers will be developed.

Frequently trainees in the teacher training programs realize that the "honeymoon" in teaching is finished after a few weeks in school and the bonus of being a very new teacher is over very quickly. Disruptions and troublemakers are also part of our daily routines in vocational schools and everyone has to deal with these, including junior teachers. As an example of a project group, a group of junior teachers in the Cologne institute asked some teacher trainers for advice on this and an interesting project group was started, which is documented in Annex 4.

7. Trial-run Teaching Situations – Teaching and Feed-Back

Trial-run Teaching Situation (TRTS) is the English translation for the German *Unterrichtsbesuch*. There are many kinds of case-study teaching and TRTSs can be used to meet different objectives throughout the two-year program and even after that.

Trial-run Teaching Situations (TRTS) of junior teachers can be done:

- i. In front of senior teachers from the teacher training center, or
- ii. In front of members from the peer group or
- iii. In front of colleagues at a vocational school or
- iv. In front of members from the advisory groups or within project groups.

The important thing is that they are always “teaching experiments”, where the new teachers have the right to show where they are at in their development and they have the right to make mistakes.

A minimum of 6 TRTSs are required in each of the two teaching subjects of the vocational teachers. This brings it to a total of at least 12 teaching situations in which the trainees invite senior teachers and teacher trainers to first sit in the lesson and later discuss the experiments together with the junior teachers.

TRTS follow certain rules. The junior teacher, prior to the teaching situation, hands out a written preparation for the case study to all the participants. In Cologne, different ways of written preparations for TRTS exist. One that was developed by the Director of the Cologne VETTI, Mr. J. Martin Thees himself, is shown in Annex 2: Trial-run Teaching Observations. It has criteria for the main categories in:

- Planning competencies;
- Implementation competencies (with respect to content, methods and communication); as well as
- Teaching competencies in the class itself.

The worksheet shown in Annex 2 was developed for the participants in those situations in order to have a list of criteria and questions what exactly to look at. The guidelines are given to all the people observing the lesson and the focus is preparing the participants to talk about the teaching experiment later. It also helps teacher trainers to look at their own notes when they have to prepare for the "planning and development talk" with each trainee halfway through the training, as well as in preparing for the final report to be written about each individual trainee.

When correctly practiced, trial-run teaching gives invaluable quality feedback to trainees that will enhance their learning and give orientation to their improvements as vocational teachers.

In Cologne, TRTS are practiced very frequently - as mentioned above, in various group settings and with members of peer groups and project groups. Experience has shown that TRTS lose some of their "exam character" due to this frequency and varied settings, and hence trainees become more relaxed about them and look at them more as learning opportunities.

This is positive, because the real learning takes place in the counseling situations after the case-study teaching situations! Up to this point the trainees have planned and carried out a lesson and now they are open to feedback. Feedback can be given in the form of Cooperative Reflection Counseling, as described in Box 2 of this paper. It can also be done in different settings. It is of utmost importance that the trainee her/himself gets into the position that she/he comes to realize alone what to do differently next time.

Once again, it was discovered in the institute in Cologne that if giving advice here is practiced (instead of counseling!), then junior teachers will only accept this advice for the duration of the TRTS and will not change habits.

If, on the other hand, the trainees feel comfortable in these peer situations, then they may themselves come up with their own observations, like: "The students were so passive in participating. Do you think that could relate to my planning things too much, instead of involving them in the planning process more?"

If this is the conclusion of a talk at the end of TRTS, the trainees have learned indeed much more than by having received tons of advice by more experienced teachers of what to do better in this or that situation!

Furthermore, teacher trainers in Cologne believe that these TRTS should not be one-sided, with the same people always teaching and the same people always sitting and listening. Good teacher trainers themselves teach in various settings of vocational schools as well and let the trainees observe, listen and assess the good, but also the bad in senior teachers' lessons. One real situation, which some teacher trainers in Cologne put themselves into, is described in Annex 5.

8. The Field-related Group (*Fachseminar*) in Economics and Business Administration in 1998-2000

When junior teachers come to the teacher training institute, the key question for each seminar group in the beginning is certainly how to organize content and topics and how to relate objectives and essentials in a meaningful way. Annex 3:

Teacher Training in Economics and Business Administration (*Fachseminar*), illustrates the work done during the two years in my own group.

It should be mentioned here that this is just one example of one teacher trainer in one field. There are many more fields and many more teacher trainers, who might very well make other choices.

As can be seen there from my list of topics covered, the economics and business administration group placed a high importance on slowly adding tasks of higher sophistication.

What helped me as a teacher trainer in the economics and business administration group in my preparations was using the following didactical questions:

- **Q.: What should be covered in the first quarter of the training sessions? (Blocks I and II in Annex 3)**

A.: I found it particularly important to first expose the junior teachers to the different school careers in our branched out vocational education system in Germany (Block I,1-2). Criteria for good teaching were then examined and to this end we first worked on questioning techniques and how to get students to participate in lessons through skilled paraphrasing and affirmative commands in teaching (Block I, 3-5).

In a second block (Block II, 6-12) we learned how to turn content into topics in our lessons. For example, we would look at sales contracts in business administration, and I together with the junior teachers would jointly develop – for example – lessons on sales contracts aimed at making the topic interesting for different kinds of students. For example for a full-time commercial college class (*Handelsschule*) in office management we would design a lesson like “We want to enlarge our product range: how do we get information about pens and pencils?” This would lead to writing inquiries and eventually to a contract of sale cycle. After coming up with modules, we would select examples for the lesson and design lesson openings and conclusions for different groups.

- **Q.: Why do I put so much emphasis on working in learning fields and learning situations? (Block III: Learning Fields and Learning Situations)**

A.: In the third block of the field-related work (Block III, 13-18) the reader might notice the expressions “learning fields” and “learning

situations”. These characterize real-life or employment-related situations that are used to structure the learning in vocational education. Let’s take an example in business administration: In the curriculum in business administration for practically all school careers you can find a sentence like “Students should be able to plan a marketing concept for a specific product”.

Until 10 years ago this would have been covered by the teacher in business administration alone and he/she would have taught what a marketing concept is and then the students would have learned it by heart and produce their knowledge in multiple-choice test (and most likely forget it soon after!).

In planning a learning situation now, teachers from one school career (*Bildungsgang*), for example in a full-time commercial class would sit together and see how this situation could be covered not only by the teacher in business administration but also

- by the teacher in mathematics (since there is a lot of calculation involved when it comes to pricing the product);
- by the teacher in English (since the product might be sold in South Africa or India);
- by the teacher in German (since oral presentations of the marketing concept to the management of the company will be trained in this learning situation); and
- by the teacher in accounting (since the costs for designing and the revenues that will flow from a good marketing concept will have to be calculated).

I think it becomes obvious from this example that learning situations change our thinking as teachers in vocational education dramatically and require new thinking. This is trained in every field-related group and requires putting so much emphasis on this block.

• **Q.: How can this topic best be learnt? (Block IV: POLIS)**

A.: Learning fields and learning situations can be developed by teachers and junior teachers, but they can also be generated from methods and games that can be used in business administration and economics (like in Block III, 19-21).

My experience in preparing the strategy game POLIS (see Box 2) has shown that studying as well as teaching international economic policy can rather be learnt best by using this game that not only motivates but also kind of playfully teaches more international economics than a

teacher can possibly get across in the same amount of time in conventional teaching.

Moreover, and that is the nice thing about this game, POLIS can be used at the beginning of the school year and together with the students (yes, with the students, too!) learning situations can be earmarked that are worth working on in the continuation of class teaching in economics.

In my own experience after having played POLIS, students in my vocational college wanted to focus much more on price mechanisms in international economics (since they did not quite understand, why there are so many agrarian products in the world, but apparently not everybody would benefit from that in the game and if so, they did benefit only at extremely high prices for food!). This apparent problem situation was used to structure my learning situations and thus referred to students' interests in economics (which, let us be honest, does not show off so obviously very often!)

- **Q.: How can I grade written and oral contributions of my vocational students? (Block V)**

A.: A different way of teaching requires a different way of assessing students' accomplishments. The following techniques were used in my seminar in Block V. Reflection learning calls for independent student planning, implementing, monitoring and evaluating. If this notion is accepted, then assessing those learning processes has to go through the same cycle.

This is why in this part of the field-related work, heavy emphasis is put on showing junior teachers how to organize written tests. Coming back to the marketing example, a written test would consist of an open task that would be turned into a marketing strategy. The students would have to show their abilities in planning, implementing and evaluating and thus prove a number of different competencies. Of course in such a test there is no master copy of the test in the hand of the teacher. Individual solutions will have to be assessed individually. This will be learned in Block V.

Assessing oral participation is covered at length in this part of the training. For example, it is often said that group work is hard to measure and even harder to turn into quantitative grades. In reflection learning processes it has been found that it is useful to have more than 50% of the final grade come from oral

participation. To this end qualitative indicators are introduced here, such as criteria for oral achievements.

One approach to assessing group results practiced with my students was the “fish bowl method”. At the end of a group activity or working group, the moderator calls one representative from each group to come into an inner circle, while the rest sits in an outside circle. The inside circle then discusses the achievements of each individual group vis-a-vis criteria previously agreed. The outside circle can speak up any time when someone thinks that the discussion is not accurate. The fish bowl continues until for each group a grade or validated accomplishment has been found.

- **Q.: Where will cooperation be successful and which learning methods are considered helpful in specific situations (such as projects, learning in peer groups, future labs, scenario techniques etc.)? (Additional Block)**

A.: As can be seen from Annex 3 (Additional Block), there was a heavy emphasis in my seminar on special projects - teaching sessions going beyond the 45-minute rhythms. Future labs, scenario techniques and POLIS have been explained in some length in this paper already.

For example, I used the first module in accounting in commercial apprenticeship as a way to learn to use reflection learning techniques in accounting (Additional Block, 2). My junior teachers developed lessons involving their apprenticeship students in their vocational schools in a situation where a school library would be set up (together with the German teacher). The task of the junior teachers now was to transform this project “school library” into a reasonable accounting system which documented books bought, sold or given away, balance sheets by the end of the year, profit or loss statements etc. I have never seen teachers develop so much interest in teaching accounting!

The other block we dealt with is called the *Lernbüro*. Physically a *Lernbüro* is an office, not a classroom. The students carry out office work for small “artificial companies”. Each *Lernbüro* is run by a teacher or a team of two teachers who behave not like teachers, but more like the owner-operators of a small enterprise.

The work in *Lernbüros* in NRW was started some 17 years ago and now *Lernbüro* work is a school subject in itself with 3 hours a week in most classes. Junior teachers learn how to teach in

Lernbüros when they are in the VETTIs, and *Lernbüros* are a part of every group in economics and administration as well as of the focus of the trial-run teaching situations.

- **Q.: And what will be the focus immediately before the exam? (Block VI)**

A.: The focus immediately before the exam is of course on getting the whole field-related work rounded up. That means that colloquium exam situations will be role-played. Expectations for trial-run teaching situations (TRTSs) will be elevated to exam level and each junior teacher's reference book (see Annex 1) will be checked to ensure that all the necessary work has been completed (see Table 1).

Purposely, in order to “teach by example”, teacher training in my field-related group of economics resembled trial-run teaching situations of my own junior teachers in school, with the teacher trainer in this group obliging himself to lay out his planning activities, list his objectives for the training session, carry out the seminar and at the end get feedback from his junior teachers on his performance in that particular training session. Written preparations of the teacher trainer were also open to the feedback phase at the end of each training session.

In this field-related group of economics and business administration my junior teachers first examined who were their students and what would interest them, and only then started developing lesson plans. They looked at learning processes in economics and began to develop more complex teaching learning situations. And finally they became comfortable with other vocational teacher functions in economics such as assessing performance, counseling students and parents and learning how to be comfortable with reflection learning processes in economics, through learning arrangements going beyond the 45-minute rhythms of our daily routines in vocational schools.

9. Monitoring and Evaluating Mechanisms by Teacher Trainers in Cologne – Continuous Improvement Assured

In this chapter, some monitoring and evaluation mechanisms will be described that are routinely being used in Cologne during and after each two-year training and certification period. The results of these evaluations are then fed either directly into the ongoing seminars or into the following cycles of teacher training.

Briefly, five different activities for quality control will be described in this chapter.

1. “Jour fixe”

The “jour fixe” is a regular meeting of all the teacher trainers. As a way of giving feedback among the teacher trainers and providing a forum for ongoing work among the various field-related groups (*Fachseminare*) and groups for general vocational pedagogy and didactics (*Hauptseminare*), bi-weekly to monthly meetings are held, which are called “jour fixe” in the Cologne vocational education teacher training institute terminology. The "jour fixe" brings together the entire teacher trainers in the institute.

These half-day to full day meetings have the function of critically monitoring the ongoing training cycle and providing a forum for discussion. For each jour fixe, 4-6 teacher trainers sign on as responsible moderators; they are in charge of clarifying the agenda with their colleagues, moderating and documenting outcomes. Lately meetings have focused on

- Implementing new legal framework for teacher training into daily work in the institute;
- Identifying training needs for teacher trainers; and
- Developing identical criteria for good lesson planning and implementation.

2. Further Training Programs for the Teacher Trainers

Training programs are also offered for teacher trainers in the institute and lately have focused on

- “Systemic Counseling”;
- Mastering “Topic-centered Interaction” (*TZI=Themenzentrierte Interaktion*), a communication approach;
- Working with new media (Internet, Multi-media) in field-related groups (*Fachseminare*);
- Developing special learning promotion programs for weaker students;
- Using scenario techniques and future labs comfortably with junior teachers and students;
- Identifying “creative ways” to release organizational duties in schools

These training programs for teacher trainers usually take place outside of the institute itself, and outside experts help. They take place a minimum of once or twice a year and last a weekend or a couple of workdays.

3. Training of New Teacher Trainers by the Institute’s Director

This part of the program is used whenever new teacher trainers are appointed to the institute. When new teacher trainers come to the institute, they usually need training in order to be equipped to carry out all the tasks of a teacher trainer competently. Of course, these senior teachers have already completed teacher trainings before, such as in the Teacher Training Center for Further Teacher Training in Soest, NRW (*Landesinstitut für Schule und Weiterbildung*), and very often have a lot of experience.

A typical preparatory training for new teacher trainers consists of 4-6 hour sessions each, for example in:

- Developing criteria for a “good” teacher trainer;
- Discussing and implementing counseling situations after trial-run teaching situations;
- Dealing with feedback from the field-related groups (*Fachseminare*);
- Accompanying written theses by junior teachers;
- Writing final reports for our trainees; and
- Assessing in a State Board Exam Situation

4. Evaluations in the Institute by Teacher Trainers

After each two-year cycle, evaluations of the program are done. Evaluation sheets are developed and distributed among the teacher trainers and the trainees. As a result of the evaluation, changes are made; in the last cycle for example, it was decided to put more emphasis on observing trial-run teaching situations in groups of junior teachers (*Gruppenhospitationen*), and the functions of the mentor programs in schools were strengthened.

The state board exam phase is also regularly up for evaluation. The last evaluation, for example, brought to light that the trainees seemed a bit weak in the didactical and planning parts of their exams, but on the other hand grades in the final reports of the teacher trainers correlated significantly with the final grades in the exams. It also came out that using the so-called “circular question method” more might help trainees in colloquium situations overcome situations in which they were blocked.

5. Evaluations in the Institute by Trainees

This evaluation is done on a voluntary basis by junior teachers who have been through the program. As a way of getting feedback from the trainees, the VETTI frequently asks the trainees to write down their impression of the program. The trainees describe their points of view, their experiences and their suggestions for future changes of the program. A flashback by a former trainee is given who has

been through the two-year program and who has been in my field-related group of economics and business administration. Annex 6 gives her statement.

Annex 1: The Teacher Training Reference Book

Each junior teacher keeps a little booklet in which he/she writes down the different kinds of training they receive. In the teacher training reference book the six different teaching functions are listed, which are

- Teaching;
- Educating;
- Counseling;
- Assessing;
- Administrating/Organizing and
- Innovating.

For each essential training seminar – as listed in Chapter 5 – a cross-reference is made and it is summarized with its title, the number of hours and the name and the signature of the teacher trainer in this teacher training reference book. An extract from this book might look like this:

Vocational Education Teacher Training Institute, Cologne

XYZ

Institute Reference Book

Junior Teacher's Name: _____

Function: Teaching Essential: Didactical Concept		
Topic	Hours	Teacher Trainer

Function: Assessments Grading Achievements – Promoting Students		
Topic	Hours	Teacher Trainer

....

Annex 2: A Form for Recording Trial-run Teaching Observations

Trial-run Teaching Situation Observations with Ms./Mr.

On Lesson

In Topic

Class

1 Planning the Lesson

Class Situation

Didactic Decisions

Selection of Content

- Reduction
- Setting priorities

Objectives

- Interdisciplinary
- Competency-based
- Oriented towards real life
and employment
- Educational

Process Planning

Intended Students' Independence

Articulation

Work Forms

Media and materials

Learning Success Control

Innovative Potential

Conclusion for Planning Competency:

Didactic Competency

2. Implementing the Lesson (Content)

Recognizable Phases

Independent planning of students

Shaping out objectives

Independent carrying out by students

- Appropriate level for students
- Content correctness
- Setting priorities
- Oriented towards real life and employment

Independent assessment by students

Learning Success Control

<p>Conclusion for Implementation Competency (Content):</p>

2. Implementing the Lesson (Methods and Communication)

Learning Arrangement
(Training, Lecture, Project)

Social Class Activity
(Group, Individual, or
Partner Work)

Didactic Function (Exercise,
Transfer, Application, Control etc.)

Patterns of Learning

Communication Competency

- Communication structure
- Clarity and Style
- Modulation

- Division of communication between students and teacher

Media and material usage

Student Participation and means to make students participate

Conclusion for Implementation Competency (Methods And Communication):

3. Teacher Activity

General Behavior/Activities
(Security, Calmness etc)

Promotion of

- Self-orientation
- Methodical competency
- Learning competency
- Social competency
- Morale
- Communication competency

Activities in disruptions

Educational competency

Relation with the students

- Appreciation
- Understanding
- Emotions

**Conclusion for Teacher's Activities:
Pedagogical and social competencies**

Annex 3: My Economics and Business Administration Group (*Fachseminar in Wirtschaftswissenschaften*)

(Each topic refers to 180-minute sessions)

Block I: Students in Different School Careers

1. We identify expectations within the *Fachseminar* of economics
2. First experiences with a vast number of school careers in our schools
3. We develop criteria for “good” teaching when we observe senior teachers
4. Educational backgrounds of our students in different school careers
5. We analyze the consequences of students’ backgrounds for our lessons in economics

Block II: The Topics in our Lessons in Economics

6. The “good” teacher in economics
7. My path to find a topic
8. My lesson should have a topic – bringing in a perspective
9. Developing a didactical planning aspect
10. We develop a didactical analysis
11. Didactical work in analysis and learning situations
12. Alternative didactics in economics

Block III: Planning of Teaching and Learning Processes

13. Reflection learning, learning fields and learning situations in economics – definitions and dissociation
14. Learning objectives and competencies – where are the differences?
15. Contd.
16. Learning how to “learn” in economics
17. Sharpening our didactical profiles in economics
18. Analysis and structure of written case-study teaching experiments

Block IV: Enhancing Teaching Competencies - Preparation of a Strategy Game

19. We develop didactical principles for strategy games
20. We plan the strategy game POLIS
21. We submit roles, identify strategies and discuss teacher intervention mechanisms for POLIS

Block V: Annual Didactical Planning; and Safeguard, Assess and Grade Learning in Economics

22. After POLIS: what do students want to do with their new skills: we build learning situations in economics – also according to the students’ interests!
23. Assessing student learning in reflection learning contexts
24. Independent student assessment in economics – does that work at all?
25. We work with the introduced school book in economics
26. We develop class tests, grade them and return them to our students in a meaningful way
27. We develop strategies how to measure oral participation in classes in economics and integrate it into our grading repertoire
28. Assessing group work creatively: the fish-bowl method

Block VI: Counseling, School Career Didactics and Specific Exam Preparations

29. Systemic counseling – what for in vocational schools?
30. Beginners classes in full-time classes of vocational colleges (*Höhere Handelsschulen*) – we prepare the first week of teaching these students together with our colleagues in our vocational schools
31. Counseling these students regarding their entrance into the labor market
32. Using videos in economics and business administration
33. Personal computers and Internet – how can it be integrated in economics?
34. Simulation of a school career conference and carrying out annual didactical planning in one school career (*Didaktische Jahresplanung*)
35. Simulation of a colloquium situation in the final exam

Additional Block: Further Training in Economics – Going beyond the 45-minute Rhythms

1. Cooperation Project among schools “Problems in our School” (see Annex 4) – 3 one day training sessions
2. Cooperation Phase within the institute “Reflection Learning in Accounting” – five 4-hour sessions in the institute
3. Planning, carrying-out and evaluating playing a management game with students – POLIS (see Box 1) – a two-day training course
4. Trial-run teaching situations by teacher trainers – Using a scenario technique in business administration (see Annex 5) – a weekend training course in a vocational college
5. Simulated Enterprise Offices in Vocational Schools (*Lernbüros*) – a one-day training course on how to work in *Lernbüros* shown in one selected vocational school

Annex 4: “Problems in our Lessons” – A Vocational School Class (*Höhere Handelsschule*) Finds Its Own Amazing Solutions Using Robert Jung’s Method of the “Future Lab” (*Zukunftswerkstatt*)

Teacher trainers from the institute were asked by teachers from a specific vocational school to work with them and their students on the situation “Problems in our Lessons”. The time span available was three whole teaching days (8a.m. – 3p.m.) in that school, bringing together a full-time vocational class of 28 students, 4 of their teachers, 15 junior teachers (most of whom knew this specific class as well) and 2 teacher trainers from the teacher training institute.

It was decided to use one method of Robert Jung for this teaching experiment. Robert Jung had done research in the 60s and 70s in Italy about bringing out creative potential in people and developed a method, which is widely known as *Zukunftswerkstatt* in German, the English translation would probably be “Future Lab”.

In the first phase of a future lab, participants criticize the present situation; everything is allowed to be said without evaluation. Criticism is written on cards, structured, clustered and headlines for joint points are found.

The second phase throws the participants into a phantasy and utopian situation in which coming up with "wild" solutions is called for. The participants are asked to fantasize about utopian solutions and to present their solutions in words, texts, role-plays, or whatever comes to their minds.

The third phase brings the participants down to earth again, asking them to think about how they can realize their ideas in real life and which steps are necessary to do that. Finally, each group has to present its solutions, and milestones will be set up to monitor and evaluate the success of each plan.

In this particular school situation, the future lab was played on three consecutive school Mondays. It was decided that the two teacher trainers from the teacher training institute, who had had previous experience with future labs, would serve as the moderators of the teaching experiment. The whole class showed up on all three sessions and nobody left even a minute early. Breaks were made when necessary, but certainly not when the school bell rang.

In the first phase, the students came up with heaps of discomfort. Various interactive and group-dynamic methods were used to work with the whole group. After all the criticism was expressed it was piled, structured and clustered. At that point it was hard to believe that anything could be done about it. This phase lasted the first day.

However, the second phase came up with very creative ideas by the students and

the junior teachers and the groups had enough time to research and present their ideas. The work forms and the intensity of the work transcended everything the students and the trainees had experienced before in school and in the VETTI, and a lot of laughter, but also sincerity and willpower was found on the second day of this experiment. The presentation of the utopias in the plenary by students and junior teachers was both funny and very creative.

Before the last day, the groups were mixed again such as before the second day and the students, trainees and teachers worked again on preparing strategies to implement their plans. To this end, some of them went out to research food prices, others went to talk to the director of the vocational school to convince him of their plan, and others went on the Internet to research information. In the end – late in the afternoon of the third day, long after school bells had rung for the students to go home! - the moderators invited the director of the school to attend the presentation phase and see which of the projects could eventually be turned into real-life projects in that school.

The director of that school was not easy to convince about the usefulness of these projects, but in the end he let the students and the junior teachers do the following things in the months thereafter:

- Plan, set up and run a student café in the entrance hall of the college;
- Develop action lines for a to-be-established "Mediation Board" at that college; and
- Have students participate in class conferences together with their teachers.

In fact, methodologies similar to that used in future labs in Germany are used widely in many organizations and meetings when open-ended thinking is intended. Such brainstorming approaches are as useful with students of vocational schools in Germany complaining about school problems as with politicians from the Ministry of Education in Ethiopia in identifying bottlenecks in current teacher qualifications for commercial colleges or with teacher trainers in South India trying to overcome old structures in teacher training and using this method in order to plan their new teacher training institute structure.

Wherever it is used, in the end it is always a fascinating method that brings out both intuitive-emotional capabilities as well as rational-analytical ones in all the participants and it is always a fun-way of learning!

Annex 5:" Paving the Future" – Using Scenario Techniques to Teach Future Planning to IT-Students and Junior Teachers

Scenario techniques are methods that can deliver pictures of future situations. Scenarios are not prognoses, neither are they utopias and fantasies like future labs, but they provide quantitative data and information with the help of which detailed descriptions and possible future situations can be developed.

In each go, three different scenarios are developed:

- A positive scenario which describes the most advantageous future (best-case scenario);
- A negative scenario which shapes out the negative aspects (worst-case scenario); and
- A scenario that extrapolates current trends into the future (trend-extrapolation).

Some of the teacher trainers in the Cologne institute work with scenario techniques and one teacher trainer in Cologne carried out an interdisciplinary experiment working with scenario techniques, with an adult class in an Executive MBA Program specialized in computer science (*Fachschule für Wirtschaftsinformatik – Staatlicher geprüfter Betriebswirt*), together with an Information Technology (IT)- apprenticeship class of systems analysts (*Systemanalytiker*).

Participants were these two groups of students, about 10 junior teachers, and two experienced junior teachers on three consecutive whole days working an approximate 24 work hours. The work was done in the 5 classical phases of a scenario technique.

The starting point in the first phase is a problem where solutions are being desperately looked for. In the school situation with the classes mentioned, both groups had strong interests as well as a strong background in IT (one group was more focused on the commercial aspects, the other more on the technical ones).

The starting question was: "When you think of IT technology in Germany in the next 20 years, which opportunities and which risks do you see?" The answers were structured and clustered, for example in our case into economy, environment, society, and technical development.

In the second phase (which is called "impact analysis and descriptor definition") the clustered answers are used to find certain influential factors. Quantitative factors, for example the development of PC usage in Germany as well as qualitative ones, the attitude towards new technologies in Germany, were

assessed. Of course, it is essential to have prepared a good documentation of information beforehand and to let the students also use other sources of information (such as the Internet) in this phase. In scenario techniques, this is the phase of gaining information and identifying factors that will influence the previously identified areas.

In the third phase, each factor, with its descriptors, gets projected into the future and its impact measured (e.g. positive technological developments might be counterweighed by measurements from the German data protection Board). Different descriptors might influence the trends differently, but their influence is always measured quantitatively if possible.

Phase 4 is the most interesting one, in which holistic scenarios of the future are drafted based on the quantitative and qualitative data. In our experience it was interesting to have more than 3 groups develop the different scenarios (best-, worst and trend). Having six groups instead of only three has proven to be ideal in order to be able to compare different views in each area. This phase ends with a presentation of the group results.

Finally, in the last phase, activities and reflection patterns are developed in order to find out what can be done to reinforce - or if it is undesired, to avoid - a certain trend. To this end a catalogue of activities is made that raises questions like:

- What can we do?
- How do we have to implement it?
- What might be the obstacles?
- How can we deal with them?
- Etc.

Scenario techniques were used in the German car industry at the beginning of the 90s a lot when the car crises was at its height and companies like VW, Daimler and Porsche were facing serious restructuring problems. Apparently, some of the German carmakers found creative solutions to come out of this crisis, while others did not!

It is not that long ago that these methods found their way into vocational schools in Germany. As can be seen from this example, the amount of reflection that is done when this method is used is quite amazing. It should be said, however, that running this method requires a lot of experience as well as discipline on the side of the moderators.

Annex 6: Flash Back – A Former Trainee in the VETTI in Cologne Looks Back After Completing the Program

"I did my teacher training from 1998-2000 in Cologne. Among others, Michael Axmann was one of my teacher trainers (*Fachseminarleiter*).

Teacher training in Cologne was certainly interesting if not always the way you expected it to be. This is one of the things typical for the Cologne institute – unconventional methods. Before I came there I expected to be trained in different teaching methods, provided with a lot of “tricks” and good advice. What I found was questions with no one providing answers but myself. This might sound unpedagogical, but what at the beginning seemed arbitrary, turned out to have a method behind it indeed. You had to find your own way. No one ever told you that what you did was good or bad – they just provided help in analyzing yourself.

The very first week, for example, felt more like a course in psychology than in didactics. We were asked to make ourselves the subject of discussion by analyzing our “biography”. What the hell does that have to do with teaching, I thought. Well, I can tell you. Knowing yourself, knowing your reactions towards people, knowing how you yourself behaved as a pupil, knowing your innermost strengths and weaknesses – all that makes you acknowledge the kind of teacher you are and enables you to define your role as a teacher.

The courses were divided into “*Hauptseminare*” (main seminars concentrating on basic didactic work without referring to any special school subjects) and so-called “*Fachseminare*” (subject-related seminars providing information about certain didactic approaches for the specific subject, e.g. business studies).

The good thing about the **main seminars** was, that we were free to choose from a variety of topics. In that way, everyone had the possibility to choose something meeting his/her specific needs, e.g. if you felt you needed to learn something about how to handle classroom conflicts, then you would choose the corresponding course. As you met different teacher-trainees and teacher trainers every other month or so, the main seminars not only offered a wide range of topics but also a wide range of people to discuss with and to learn from.

The **subject-related seminars** were quite another matter, but nonetheless very instructive. They kind of got down to the core of it. If the things discussed in the main seminar often sounded vague and you didn’t really know how to put them into practice at school, the subject-related seminars offered help in doing so.

Of course, none of the seminars would have been of any use without the daily work at **school**. With the help of experienced teachers who we were allowed to observe during class and who watched us doing our first steps in classroom, I became continually more experienced and self-confident. But again here, as in the seminars, it was mostly a question of your own initiative whether you learnt

something or not. You had to find teachers to tutor you, you had to make them watch and discuss your lessons – all extra work not included in the teacher's salary. I was lucky to have found at least three teachers of that kind who accompanied me throughout my teacher training and whose feedback was invaluable to my learning process.

Communication between the junior teachers was regarded as highly important by the Cologne institute; so we were asked to form **peer groups** of three to six in order to discuss classroom matters. Those peer groups were not tutored or supervised by anyone; it was purely a matter of self-steered learning by exchanging experiences and discussing problems arising in school. Although it had a compulsory touch behind it, I quite liked the idea of being together with peers. It was comforting and reassuring to find out that they had similar problems. The peer groups provided room for discussing such matters and finding solutions to them.

The last thing I would like to mention are a couple of **special projects** that were offered during the two years of teacher training. Some were compulsory, others on a voluntary basis. There was a “pedagogical week” toward the end of the second year with all kinds of workshops, a ski-holiday focusing on group dynamics, a so-called “future workshop/scenario?” together with pupils and teachers of a vocational school and many other activities. I preferred the special projects to the regular seminars because they offered facilities the Cologne institute could not offer. The future workshop/scenario for example, was much more instructive than the theoretical seminars because it was a “real” situation with pupils and teachers, not a constructed situation. Also, during most projects, the atmosphere between junior teachers and tutors was quite a different one. It was a good chance to get to know each other and also find out some personal details both from fellow trainees and tutors.

Summing up I can say that those two years of teacher training provided me with invaluable information for my further career. It was not what I expected it to be in the beginning and I know that many fellow teachers were not quite content with the methodological approach of the seminars. For many (and at times also for me) there was a certain lack of input. Most courses consisted mainly of discussions and analyses of certain classroom situations while there were only little tips on how to manage them. Being a junior teacher in the Cologne institute required the ability to work independently as well as a potential for self-analysis and “self-steering”. But only in that way was I able to find my “professional self”.