



Instances of Changes from the German case study

Results from the TTPlus project

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1 Instances of Change: Continuing development of company-specific training culture

- Presentation of 'Instance of change A' related to the German case 1 ("SchST")

Introduction

Regarding the German cases the 'instances' appear to be linked to each other. Therefore they are characterised as

- **Instance A (IA)** – 'consolidated good practice or 'grounded innovation' and
- **Instance B (IB)** – extension of innovative practice or complementary measures.

1.1 Metadata

Enterprise	"SchST" – an expansive German family enterprise in system techniques/ installations	
Title	<i>A name given to the instances of change.</i>	IA: Continuing development of company-specific training culture within handicraft trades IB: dual forms for vocational higher education
Description	<i>An account of the content of the situation.</i>	IA: Ongoing development within the company IB: Organisation of new training models with HE institutes
Date	<i>Date Created</i>	Bremen 8.11.2007
Creator	<i>Person primarily responsible for providing content of the resource</i>	Pekka Kämäräinen, Marcus Martens & Philipp Grollmann ITB, University of Bremen
Audience	<i>The intended audience for these 'instances'.</i>	Trainers, training managers, worksite mentors, HE institutes, vocational teachers, chambers, researchers
Sources	<i>A reference to the case study/ case description</i>	Summary of the German case descriptions for the TTPlus project. Section 2.1: The first case: The company SchST. (Bremen 14.9.2007). <TTplus_DE_CaseDescription.doc>

1.2 The local context of policy/ practice for the "instances of changes"

Brief introduction to the case/ contexts

The first 'instance of change' (IA) is actually a characterisation of the traditional pattern of apprentice training in the handicrafts (with the role models of 'Meister', 'Geselle' and 'Lehrling) with which the company seeks to integrate trainees to its working and learning culture (*'instance of good practice'*).

The second 'instance of change' (IB) is a characterisation of the company-specific initiative to developing a dual model for learning at the level of higher vocational education in collaboration with a local university of applied science (Fachhochschule) and with domain-specific training centre that supports staff development in SMEs.

What needs/problems do the "instances of change" address?

- **The first instance (IA)** is related to the needs of an enterprise that specialises in installation techniques at construction sites and systemic support for various industries. Since the company has been expanding quickly to new business areas it has been necessary to create a dynamic support structure that ensures training and mentoring at decentralised workplaces and across the business areas (i.e. *Agricultural technologies, Automation and process technologies, Construction of electric engines and generators,*

Electronic (explosion-safe) appliances for oil industries, Appliances for building infrastructure, Information technologies and Control systems for automatic steering).

How are the needs met/ the problems resolved?

- **Firstly**, the company SchST has consequently maintained the traditional German philosophy of *training and professional development* in crafts and trades. Thus, the staff development in the company is based on flexible cooperation between the masters of craft and trade ('*Meister*'), the advanced skilled workers ('*Gesellen*') and the trainees ('*Auszubildende*'). Thus, the people in the Meister position are used as training coordinators and supervisors who organise the grouping of advanced skilled workers and trainees to different worksites and service visits. The advanced skilled workers are at the same time considered as advanced learners and as worksite tutors who have a certain responsibility to promote the learning of trainees.

The key actors involved

Instance A (all from the same company):

- Training manager
- Trainer
- Trainee

Describe the consequences / satisfaction with this change:

- As has been indicated, the traditional handicraft training culture (**instance A**) and its adaptation to the newer business areas can be seen as 'continuation and adjustment of good practice. The new employees are brought into the tradition and they consider the role models as essential features of normal business.

1.3 The "instances of change"

Below the narrative from the perspective of an external observer:

• **Instance A (IA): Training as an integral part of tradition-bound staff development**

The company has always considered the dual system of apprenticeship and the traditional handicraft philosophy of professional growth (via the career phases of apprentice, advanced skilled worker and master of crafts and trades) as the basis for its staff policy. In its areas of production (installation and systemic services) the company cannot count on the role of relatively stable teams or units. Instead the company has to adjust its work to changing construction sites and service assignments. Therefore, training and learning opportunities are not based on a training workshop or on overarching schemes. Instead, training is being adjusted to the changing requirements of new construction sites and service tasks.

Trainees are integrated into the process of work and they are allocated to more advanced skilled workers (who serve as their mentors). These arrangements vary from time to time depending on the current working tasks and service duties. In general, the training manager is responsible for coordinating that the trainees get allocated to such tasks and duties that cover their training profiles and that they get allocated to different mentors. This, however, is dependent on the changing workflows. Yet, it is the specific challenge to bring forward the capability to self-organised learning and working under such circumstances. Therefore, the training manager is not primarily an external administrator and controller but a coordinator of training and mentoring activities (and in this context) a trainer as well.

The same narrative told from the perspectives of different key actors.

Instance A (IA): Training as an integral part of team-based staff development

Training manager (IA)	Trainer (IA)	Trainee (IA)
<p>In our company the basic training functions (tutoring, mentoring and supervision) have been linked to the normal work process of skilled workers (Geselle) and the trainees are rotating team members at different worksites. This means that training manager is essentially coordinator of constantly changing working and learning assignments and allocation of trainees. At the same time training manager must monitor the development of competences of trainees and of skilled workers. In addition to the normal processes of getting feedback (regular meetings, evaluation reports) training manager has to keep an eye whether there is a need to make use of external training provisions.</p>	<p>I see myself primarily as a skilled worker who has training responsibilities (Geselle). For us it is natural that whenever it is possible we get a trainee allocated to us. This means one more team member for the working task but at the same time a responsibility to make sure that the trainee learns as much as possible from the worksite. The training manager keeps an eye on the work tasks that our company is getting and tries to make sure that trainees are not kept in similar jobs all the time. Therefore, it is in our interest to arrange the working and learning tasks of the trainees in such a way that we get trainees with us to different worksites.</p>	<p>As trainees we rotate between the departments of the company. We spend at each department 5 months and during that time we are allocated to different skilled workers according to the work tasks that are available. This means that we may have different experiences of our trainers but we are encouraged to give an honest feedback with the anonymised evaluation reports. In the best cases we are encouraged to take initiative when we are can convince that trainers that we can do the job. Also, in the best cases we are also invited to external training provisions that are provided for the skilled workers.</p>

Interests of the key actors

Key actors	What the key actors want
Training manager	<ul style="list-style-type: none"> • IA: The training manager wants to distribute the training functions into departments and ad hoc teams. He wants to support training and learning by coordinating the allocation of trainees to constantly changing teams and by providing focused feedback and external training opportunities.
Trainer	<ul style="list-style-type: none"> • IA: The trainer wants to develop his capability to support the learning of trainees at different worksites. By developing himself as a trainer he ensures that he will have a trainee with him whatever tasks are available.
Trainee	<ul style="list-style-type: none"> • IA: The trainee wants to have good quality training and chances to show what he has learned. This, of course depends on the changing work tasks and the changing allocation of trainees the advanced skilled workers.

A list of other actors

a)	The external domain-specific training provider (not involved in the interviews)
b)	The private university of applied sciences (not involved in the interviews)

Remarks on the other influences

a)	The external training provider has been founded in 1947 as a nation-wide competence centre to support the renewal and upgrading of competences of skilled workers in electrical engineering and in information technologies. Among other services it supports the dual study models in the latterly founded private university for applied science. The company SchST is a long-term client of the training centre with a special interest in upgrading competences in installation techniques.
b)	The private university of applied sciences has been founded by a national training provider and by other partner organisations to support dual study models. These models combine advanced vocational training with engineering studies that lead to the basic degree of the universities of applied science. The company SchST provides is a natural local partner for the private FH and provides a special case for adjusting the study model to the work processes of installation techniques.

2 Instances of change: dual forms for vocational higher education

- Presentation of 'Instance of change A' related to the German case 1 ("SchST")

Introduction

Regarding the German cases the 'instances' appear to be linked to each other. Therefore they are characterised as

- **Instance A (IA)** – 'consolidated good practice or 'grounded innovation' and
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1.2 The local context of policy/ practice for the "instances of changes"

Brief introduction to the case/ contexts

The first 'instance of change' (IA) is actually a characterisation of the traditional pattern of apprentice training in the handicrafts (with the role models of 'Meister', 'Geselle' and 'Lehrling) with which the company seeks to integrate trainees to its working and learning culture ('instance of good practice').

The second 'instance of change' (IB) is a characterisation of the company-specific initiative to developing a dual model for learning at the level of higher vocational education in collaboration with a local university of applied science (Fachhochschule) and with domain-specific training centre that supports staff development in SMEs.

What needs/problems do the "instances of change" address?

- **The first instance (IA)** is related to the needs of an enterprise that specialises in installation techniques at construction sites and systemic support for various industries. Since the company has been expanding quickly to new business areas it has been necessary to create a dynamic support structure that ensures training and mentoring at

decentralised workplaces and across the business areas (i.e. *Agricultural technologies, Automation and process technologies, Construction of electric engines and generators, Electronic (explosion-safe) appliances for oil industries, Appliances for building infrastructure, Information technologies and Control systems for automatic steering*).

- **The second instance (IB)** is related to newer needs to ensure the availability of engineer-level specialists with a sufficient work experience from the production areas that are being developed by the company. The view of the company was that the higher education programmes were not putting enough emphasis on promoting *experience on decentralised work sites, cooperation with installation technicians and targeted support for client enterprises*.

How are the needs met/ the problems resolved?

- **Firstly**, the company SchST has consequently maintained the traditional German philosophy of *training and professional development* in crafts and trades. Thus, the staff development in the company is based on flexible cooperation between the masters of craft and trade ('*Meister*'), the advanced skilled workers ('*Gesellen*') and the trainees ('*Auszubildende*'). Thus, the people in the Meister position are used as training coordinators and supervisors who organise the grouping of advanced skilled workers and trainees to different worksites and service visits. The advanced skilled workers are at the same time considered as advanced learners and as worksite tutors who have a certain responsibility to promote the learning of trainees.
- **Secondly**, the company developed a dual study model ('*Berufsakademie*') in collaboration with a local (private) university of applied sciences (Fachhochschule V_a) and with a domain-specific training centre that provides specialised training provisions for advanced professionals. The model seeks to integrate 'work process knowledge' into the learning culture of higher education institutes who qualify future production managers and for the business areas that are covered by the company.

The key actors involved

Instance A (all from the same company):

- Training manager
- Trainer
- Trainee

Instance B:

- Training manager
- Local university of applied science
- External training provider

(the information is based on a study visit that took place before the start of TTplus project)

Describe the consequences / satisfaction with this change:

- As has been indicated, the traditional handicraft training culture (**instance A**) and its adaptation to the newer business areas can be seen as 'continuation and adjustment of good practice. The new employees are brought into the tradition and they consider the role models as essential features of normal business.
- The information on the dual study model (**instance B**) has been gained independently of the interviews on trainers' professional situation. The study model is designed for other target groups (who would otherwise opt for purely academic studies). Currently there is little information on the functioning of the model and of the views of different key actors.

1.3 The “instances of change”

Below two narratives from the perspective of an external observer:

- **Instance A (IA): Training as an integral part of tradition-bound staff development**

The company has always considered the dual system of apprenticeship and the traditional handicraft philosophy of professional growth (via the career phases of apprentice, advanced skilled worker and master of crafts and trades) as the basis for its staff policy. In its areas of production (installation and systemic services) the company cannot count on the role of relatively stable teams or units. Instead the company has to adjust its work to changing construction sites and service assignments. Therefore, training and learning opportunities are not based on a training workshop or on overarching schemes. Instead, training is being adjusted to the changing requirements of new construction sites and service tasks.

Trainees are integrated into the process of work and they are allocated to more advanced skilled workers (who serve as their mentors). These arrangements vary from time to time depending on the current working tasks and service duties. In general, the training manager is responsible for coordinating that the trainees get allocated to such tasks and duties that cover their training profiles and that they get allocated to different mentors. This, however, is dependent on the changing workflows. Yet, it is the specific challenge to bring forward the capability to self-organised learning and working under such circumstances. Therefore, the training manager is not primarily an external administrator and controller but a coordinator of training and mentoring activities (and in this context) a trainer as well.

- **Instance B (IB): Enrichment of training/learning opportunities in higher education**

The company has been able to develop its initial training culture across different business areas and has maintained continuity in the training (and professional development) of skilled workers. Yet, the company has had concerns how to ensure that the future production managers will be able to promote such staff development and at the same time keep themselves up to date regarding scientific and technological know-how. In this respect the company has joined in (as a partner enterprise) in an initiative to develop a dual study model that links similar culture of workplace learning to domain-specific studies in engineering at the level of higher education.

Applicants for this programme have to have the entrance qualification to Higher Education. Then, having been elected, they can go through a 4-year long dual study programme at the company SchST. The programme includes theoretical studies at a private university of applied sciences (Fachhochschule) that works in three regions. These studies are organised in cooperation with the external training provider BfE (which is one of the founding organisations of the private FH). The practical learning periods are arranged by the company and after two years' studies the students have a chance to obtain (independently of their study programme) a journeyman's certificate ('*Gesellenprüfung*') of the Chamber of crafts and trades (HWK). After four years' studies they will complete the programme with the degree of Dipl.-Ing.(FH) for electrical engineering.

The same narrative told from the perspectives of different key actors.

Instance A (IA): Training as an integral part of team-based staff development

Training manager (IA)	Trainer (IA)	Trainee (IA)
<p>In our company the basic training functions (tutoring, mentoring and supervision) have been linked to the normal work process of skilled workers (Geselle) and the trainees are rotating team members at different worksites. This means that training manager is essentially coordinator of constantly changing working and learning assignments and allocation of trainees. At the same time training manager must monitor the development of competences of trainees and of skilled workers. In addition to the normal processes of getting feedback (regular meetings, evaluation reports) training manager has to keep an eye whether there is a need to make use of external training provisions.</p>	<p>I see myself primarily as a skilled worker who has training responsibilities (Geselle). For us it is natural that whenever it is possible we get a trainee allocated to us. This means one more team member for the working task but at the same time a responsibility to make sure that the trainee learns as much as possible from the worksite. The training manager keeps an eye on the work tasks that our company is getting and tries to make sure that trainees are not kept in similar jobs all the time. Therefore, it is in our interest to arrange the working and learning tasks of the trainees in such a way that we get trainees with us to different worksites.</p>	<p>As trainees we rotate between the departments of the company. We spend at each department 5 months and during that time we are allocated to different skilled workers according to the work tasks that are available. This means that we may have different experiences of our trainers but we are encouraged to give an honest feedback with the anonymised evaluation reports. In the best cases we are encouraged to take initiative when we are can convince that trainers that we can do the job. Also, in the best cases we are also invited to external training provisions that are provided for the skilled workers.</p>

Instance B (IB): Enrichment of training/learning opportunities with external training

Training manager (IB)	Trainer (IB)	Trainee(IB)
<p>Our company has considered it necessary to take special measures to ensure that we get engineers who have an understanding for the kind of work processes that characterise our areas of production and services. Therefore, we have been pleased to join in a pilot initiative with dual forms of learning within the education of engineers. We organise this programme in collaboration with the local university of applied sciences, with the chamber of commerce and with an external training provider that supports us with advanced training provisions. So far the students have done well and we have employed all the graduates from this programme.</p>	<p>No empirical information from trainer's point of view. (see remarks on the other influences).</p>	<p>No empirical information from trainee's point of view. (see remarks on the other influences).</p>

2.3.1 Interests of the key actors

Key actors	What the key actors want
Training manager	<ul style="list-style-type: none"> • IA: The training manager wants to distribute the training functions into departments and ad hoc teams. He wants to support training and learning by coordinating the allocation of trainees to constantly changing teams and by providing focused feedback and external training opportunities.
Trainer	<ul style="list-style-type: none"> • IA: The trainer wants to develop his capability to support the learning of trainees at different worksites. By developing himself as a trainer he ensures that he will have a trainee with him whatever tasks are available.
Trainee	<ul style="list-style-type: none"> • IB: The trainee wants to have good quality training and chances to show what he has learned. This, of course depends on the changing work tasks and the changing allocation of trainees the advanced skilled workers.

Key actors	What the key actors want
Training manager	<ul style="list-style-type: none"> • IB: The training manager wants to see the integrative culture of working and learning to be supported by the education and training of future production managers. Therefore, he welcomes the liaison of dual forms of learning and engineering studies.
Trainer	Empirical information not available
Trainee	Empirical information not available

2.3.2 A list of other actors

c)	The external domain-specific training provider (not involved in the interviews)
d)	The private university of applied sciences (not involved in the interviews)

2.3.3 Remarks on the other influences

a)	The external training provider has been founded in 1947 as a nation-wide competence centre to support the renewal and upgrading of competences of skilled workers in electrical engineering and in information technologies. Among other services it supports the dual study models in the latterly founded private university for applied science. The company SchST is a long-term client of the training centre with a special interest in upgrading competences in installation techniques.
b)	The private university of applied sciences has been founded by a national training provider and by other partner organisations to support dual study models. These models combine advanced vocational training with engineering studies that lead to the basic degree of the universities of applied science. The company SchST provides is a natural local partner for the private FH and provides a special case for adjusting the study model to the work processes of installation techniques.

3 Instances of Change: integrating training into organisational teams

- Presentation of 'Instance of change A' related to the German case 2 ("MeKn")

Introduction

Regarding the German cases the 'instances' appear to be linked to each other. Therefore they are characterised as

- **Instance A (IA)** – 'consolidated good practice or 'grounded innovation' and
- **Instance B (IB)** – extension of innovative practice or complementary measures.

1.1 Metadata

Enterprise	"MeKn" – a German ICT service provider (SME) linked to ICT-related holding group		
Title	<i>A name given to the instances of change.</i>	IA: Integrating training into organisational teams IB: obtaining external certificates as professional development	
Description	<i>An account of the content of the situation.</i>	IA: Ongoing development within the company IB: Introduction of external certificates (with VET school)	
Date	<i>Date Created</i>	Bremen 24.10.2007	
Creator	<i>Person primarily responsible for providing content of the resource</i>	Pekka Kämäräinen, Marcus Martens & Philipp Grollmann ITB, University of Bremen	
Audience	<i>The intended audience for these 'instances'.</i>	Training managers, organisational team leaders (=trainers), vocational teachers, chambers, researchers	
Sources	<i>A reference to the case study/ case description</i>	Summary of the German case descriptions for the TTPlus project. Section 2.2: The second case: The company MeKn. (Bremen 14.9.2007). <TTplus_DE_CaseDescription.doc>	

1.2 The local context of policy/practice for the "instances of changes"

Brief introduction to the case/ contexts

The first instance (IA) is actually a characterisation of '*instance of good practice*' - the company-specific pattern to rotate the trainees via different production and service teams. After going through a working and learning period in each team the trainees can express their own request in which team they want to complete their training.

The second instance (IB) is a related characterisation of '*instances of change*' – newer developments that contribute to the enrichment of training and learning opportunities. In the case of the MeKn these developments are partly linked to the merger of the company to a ICT-related holding group that develops networking and synergy across the ICT service companies of the said group.

What needs/problems do the "instances of change" address?

The first instance (IA) is related to the need of a specialised SME to provide a quick but at the same time comprehensive induction for its new workforce and to ensure that the trainees can contribute to the development of the specialised production or service teams.

How are the needs met/ the problems resolved?

Regarding **the basic needs** (IA), the company has developed a specific pattern that has been established in the course of recent years and adopted to the requirements of the production teams and the service teams.

The key actors involved

- Training manager
 - Trainer
 - Trainee
- (all from the same company)

Describe the consequences / satisfaction with this change:

The traditional pattern of working and learning in teams (and of organising the induction via rotation across the teams) has been appreciated and after the merger it has been extended across the companies of the same holding group.

1.3 The “instances of change”

Below two narratives from the perspective of an external observer:

• **Instance A (IA): Training as an integral part of team-based staff development**

The company MeKn doesn't have a separate training workshop that would cater for an orientative phase of training before launching the trainees to production and service teams. Instead, the orientation to the production and service activities has been organised via rotation arrangements. The trainees are allocated to the production or service teams for half a year's period. After getting an overview the trainees can choose the team (and the specialisation profile) with which they want to complete their initial training.

In this arrangement the 'trainers' are primarily involved as team leaders or project leaders. The incorporation of trainees is related to the need to keep the teams functioning. The involvement of trainees is adjusted to the phase of training that they are going through. Yet, they get a realistic picture of the demands and constraints that the production teams (in programming etc.) and the service teams (maintenance of ICT-based business services) are facing in their day-to-day work. While working with the teams the trainees become inducted to the working tasks (e.g. maintenance visits and typical problem situations) and to the related learning needs (e.g. necessities to extend one's own knowledge and to develop one's problem-solving capabilities).

In this context the 'trainer' is not merely working as a trainer who is supporting the individual learning processes of trainees (with reference to the given curriculum). Instead, the trainers are working as team leaders and as staff developers who seek to promote the individual and team-related learning processes of their team members.

The same narrative told from the perspectives of different actors.

Below the “instances of change” are presented from the perspective of the related key actors and action contexts.

Instance A (IA): Training as an integral part of team-based staff development

Training manager (IA)		Trainer (IA)		Trainee (IA)
<p>I see the function of training in ensuring that the trainees not only complete their curriculum but also meet the needs for skilled workers and competent team members. Therefore it is my responsibility to make sure that they become well integrated into the working and learning activities of the teams and get proper support. It is also essential to make sure that the team leaders also understand their role as trainers.</p>		<p>I see myself mainly as a team leader in my company - the role of trainer is part of that task. When we get the young people we need to make sure that they are with us in the teams and that know when to keep them with an older colleague and when to give them personal tasks with which they work independently. At the same time we have to keep an eye on what our clients want from us and what new requirements we have to meet.</p>		<p>I am pleased with the way that training is organised in this company. They do not isolate the trainees into separate 'kindergartens' but bring us to the real matter. They also give us a real chance to see around in the teams, to visit different clients and to choose the team with which we want to go deeper. And when they see that we can work independently they encourage it and give real feedback on our results.</p>

A list of key actors

Interests of the key actors

Key actors	What the key actors want
Training manager	<ul style="list-style-type: none">• IA: The training manager wants the established pattern of rotation and team-oriented training to be continued as a backbone of a learning organisation.
Trainer	<ul style="list-style-type: none">• IA: The trainer wants to develop further the hitherto successful rotation- and team-based training culture in the light of new demands.
Trainee	<ul style="list-style-type: none">• IA: The trainee wants to get into touch with real working tasks and involved in the cooperation with different customers. The trainee is also interested in working with other team members and with independent assignments (provided that the team leader gives well-timed feedback on the learning progress).

A list of other actors

Not applicable

A list of other influences

	The client company has a production system with a modularised user-training programme. This programme can be used as support structure for the continuing professional development of staff members and trainers.
	The local vocational school has proposed that the school and the MeKn should provide the trainees the opportunity to obtain CISCO Academy Certificates parallel alongside their training in the dual system of VET. This enables further development of the trainees' competences and of the local training provisions on the basis of international quality standards.
	The holding company is looking for a more active role in the staff development of its companies.

4 Instances of Change: obtaining external certificates as professional development

- Presentation of 'Instance of change B' related to the German case 2 ("MeKn")

Introduction

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1.2 The local context of policy/practice for the "instances of changes"

Brief introduction to the case/ contexts

The first instance (IA) is actually a characterisation of '*instance of good practice*' - the company-specific pattern to rotate the trainees via different production and service teams. After going through a working and learning period in each team the trainees can express their own request in which team they want to complete their training.

The second instance (IB) is a related characterisation of '*instances of change*' – newer developments that contribute to the enrichment of training and learning opportunities. In the case of the MeKn these developments are partly linked to the merger of the company to a ICT-related holding group that develops networking and synergy across the ICT service companies of the said group.

What needs/problems do the "instances of change" address?

The second instance (IB) is related to new needs for training and knowledge development that requires external support. Hitherto the possibilities of an SME to get such support have been somewhat limited. In the recent times there are indications that such support could be provided in a more systematic way.

How are the needs met/ the problems resolved?

Regarding **the newer needs (IB)** the processes of bringing external training inputs and learning opportunities have been addressed either in conjunction with

- a) very specific learning needs (and client relations) or with
- b) the need to coordinate the development of the competences of staff members with other companies of the holding group (or with the local vocational school).

The key actors involved

- Training manager
 - Trainer
 - Trainee
- (all from the same company)

Describe the consequences / satisfaction with this change:

The development of training-related support arrangements that bring into picture external training providers and/or e-learning opportunities are a more recent phenomenon. The few examples that have been mentioned are related to good experiences, new initiatives (that have only recently been taken locally) or positive expectations on new possibilities (that have been indicated at the level of the holding group).

1.3 The “instances of change”

Below the narrative from the perspective of an external observer:

• **Instance B (IB): Enrichment of training/learning opportunities with external training**

The company MeKn does not have major resources to support continuing professional development of its staff members. So far such activities have been embedded into the work of teams or (regarding the professional development of trainers) to the further training opportunities provided by the Chamber of Commerce (in Germany a public body responsible for the monitoring of training in enterprises). In this respect some newer developments have changed the picture and encouraged the company to explore the possibilities:

Firstly, a client company for whom the MeKn provides services arranged a training scheme when buying a major printing system. In this context the client company included in its user-training also the MeKn company (as an external service provider that contributes to the maintenance of the system). This training arrangement was valued by all parties involved.

Secondly, the local vocational school with which the MeKn company is in cooperation proposed that the school and the company would jointly provide the trainees a possibility to obtain Cisco Academy certificates. This initiative has been taken quite recently and the implementation is at an initial stage.

Thirdly, the merger with the ICT-related holding group has brought into picture some new initiatives regarding further training, e-Learning and knowledge management. With these initiatives (e.g. the joint “Computerkompass” service) the group seeks to support the member companies and to develop synergy in further training, staff development and in company-specific knowledge management.

The same narrative told from the perspectives of different actors.

Below the “instances of change” are presented from the perspective of the related key actors and action contexts.

Instance B (IB): Enrichment of training/learning opportunities with external training

Training manager (IB)		Trainer (IB)		Trainee (IB)
<p>I see the benefits in integrating some external training provisions (that are normally used as further training) into initial vocational training when it supports the whole learning process and the integration of the trainees to their teams. As alternative examples it is possible to mention a) the courses of the printing company (very close relation to production and related maintenance work) and b) the ‘hacker-courses’ with which the trainees and staff members got insights into data security and its implications for their contexts of work and their professional development.</p>		<p>I see the growing demands and the need to use more external knowledge and expertise. Yet, I see the growing time pressures and limited time that is available during office hours and after the office hours. Yet, in a team-oriented work organisation it is possible to find more opportunities for the individual staff members to catch up with the newest developments and make use of them.</p>		<p>I find it very inspiring that the company gives us a possibility to participate in such external training that normally is given only for selected staff members. Also I find it interesting to participate in such web-supported projects in which trainees from different companies work and learn together. Of course, you cannot expect such opportunities to be offered on a daily basis. Yet, when such training takes place, it is encouraging that the trainees are also given access to these training schemes alongside other team members.</p>

A list of key actors

Interests of the key actors

Key actors	What the key actors want
Training manager	<ul style="list-style-type: none">• IB: The training manager wants the external training opportunities to support the training and learning culture that has been successfully developed so far.
Trainer	<ul style="list-style-type: none">• IB: The trainer is concerned of his own further training and is in this respect interested in the new (external) training opportunities and in the possibilities to link them to the culture of working and learning as team members.
Trainee	<ul style="list-style-type: none">• IB: The trainee perceived the external training provisions as enrichment of the normal learning and training opportunities within the dual system. These special opportunities are not seen as a step from current frameworks towards outsourced and external training modules but as an enhancement of the culture of organisational learning and related team-building.

A list of other actors

Not applicable

A list of other influences

	The client company has a production system with a modularised user-training programme. This programme can be used as support structure for the continuing professional development of staff members and trainers.
	The local vocational school has proposed that the school and the MeKn should provide the trainees the opportunity to obtain CISCO Academy Certificates parallel alongside their training in the dual system of VET. This enables further development of the trainees' competences and of the local training provisions on the basis of international quality standards.
	The holding company is looking for a more active role in the staff development of its companies.

5 Instances of Change: synergy between learning & production

- Presentation of 'Instance of Change A' related to the German case 3 ("ArcMi-Br")

Introduction

Regarding the German cases the 'instances' appear to be linked to each other. Therefore they are characterised as

- **Instance A (IA)** – 'consolidated good practice or 'grounded innovation' and
- **Instance B (IB)** – extension of innovative practice or complementary measures.

1.1 Metadata

Enterprise	"ArcMi-Br" – a German site of an international steel producing company		
Title	<i>A name given to the instances of change.</i>	IA: Synergy between learning & production	IB: Web-based support for workplace learning
Description	<i>An account of the content of the situation.</i>	IA: Ongoing development within the company	IB: Partnership-building with other VET actors
Date	<i>Date Created</i>	Bremen 15.9.2007	
Creator	<i>Person primarily responsible for providing the content of the resource.</i>	Pekka Kämäräinen, Marcus Martens & Philipp Grollmann ITB, University of Bremen	
Audience	<i>The intended audience for these 'instances'.</i>	Trainers, training managers, worksite tutors, vocational teachers, chambers, researchers	
Sources	<i>A reference to the case study/ Case description</i>	Summary of the German case descriptions for the TTplus project. Section 2.3: The third case: The company ArcMi-Br. (Bremen 14.9.2007). <TTplus_DE_CaseDescription.doc>	

1.2 The local context of policy/ practice for the "instances of change"

Brief introduction to the case/ contexts

The starting point for the 'instances of change' is the fact that the company ArcMi-Br has already a long tradition in developing work-related and project-based learning. The company and the key actors have been involved in publicly funded pilot projects that have promoted new training concepts, new learning arrangements and related training competences.

- **Instance A (IA) "Promoting synergy between training and production sites"**
The aim is to promote synergy between learning at venues and production sites by introducing connective working and learning tasks and major projects that provide services for production.
- **Instance B (IB) "Providing web-based support for decentralised training/ learning"**
The aim is to develop web-based learning facilities that make it possible for different actors in decentralised learning processes to maintain communication and to shape their own learners'/ trainers'/ supervisors' contributions.

What problems do the "instances of change" address?

- **IA:** Often the role of industrial training workshops in the 'workplace-based training' of larger German companies has become problematic. Although the workshops have been introduced as support environments in the transition to real work environments they have to some extent become buffer zones and extension areas of school-based learning.

Therefore, pedagogic initiatives with 'working and learning tasks' and 'connective projects' try to link the workshop-placed learning to cooperation with production sites.

How are the problems to be resolved?

- **IA:** The workshop-placed learning phase is shaped with the help of working and learning tasks. Firstly these require presence phases and cooperation with the production units. Later on these are shaped into broader working and learning projects that require teamwork of trainees and development of products and services to be used by production units (e.g. the projects that build electric control panels to be used in production units).

The key actors involved – IA:

- Training manager
- Trainers (of the same company)
- Worksite tutors (of the same company)
- Trainees

Describe the consequences of/ satisfaction with such changes:

- **IA:** Inside the company the working and learning tasks and the projects have brought the training activities and trainees closer to the production unit at an earlier stage of learning. Also the supervision of such tasks has brought the trainers (at the workshop) and worksite tutors (at the production units) into closer cooperation with each other. Externally the success of this company has increased the willingness of other companies to join in such training arrangements. This has also given rise to initiatives to involve the local VET school more closely in such tasks and projects.

1.3 The “instances of change”

Below the narrative from the perspective of external observers:

- **Instance A (IA) “Promoting synergy between training and production sites”**

The training department of the company ArcMi-Br has tried to overcome the separation between training within training workshops (the first year of training) and training at production sites (from the first year on). In particular the aim was to avoid a situation in which the workshop phase is considered as an extension of school-based learning and in which the transition to training in production is experienced as a cultural shock.

In this respect the training has been mainly based on working and learning tasks and on joint projects that require cooperation with the production units. At an earlier stage the tasks may be assignments to obtain information from the production units. An example of such tasks is the collection of up-to-date information on safety issues and exemplary cases on accidents for new safety manuals. At a later stage the tasks may be joint projects in which trainees form production teams or service teams that provide appliances or services for the production units. An example of this type of projects is the design and construction of new electric control panels for some production units.

In all cases the tasks are based on the approach of self-organised learning which requires the trainees to become coordinators of their own learning processes. The trainers and the worksite tutors provide the initial information and are available for questions and feedback. Yet, the aim is to pass the responsibility on the completion of the tasks and on the quality to the trainees. The trainers have to control the final results. Yet, this can be linked to the self-assessment by the trainees (and to use of a related tool).

The narratives told from the perspectives of different key actors *and* their mutual relations

Below the “instances of change” are presented from the perspective of the related key actors and action contexts. The narratives have been presented from a group-, organisation- or community-oriented perspective (“We” instead of “I”) and they address expectations on other counterparts in training-related cooperation. The main emphasis is given on the development of mutual relations in the training activities or training-related cooperation.

Instance A: Key actors in the training activities of the company ArcMi-Br

<u>Training manager</u> vis-à-vis <i>Trainees</i> (IA)	<u>Trainers vis-à-vis</u> <i>Worksite tutors and Trainees</i> (IA)	<u>Trainees vis-à-vis</u> <i>Trainers and VET teachers</i> (IA)
<p>We expect that is useful bring the trainees into closer contact with the production units as soon as possible and as much as possible.</p> <p>The aim of the <i>working and learning tasks</i> is to bring meaningful work-related tasks into the centre. The aim of the <i>joint production-oriented projects</i> is to demonstrate that the trainees can produce instruments and services that will be used at the production sites.</p> <p>With these arrangements we want to pass the message that the trainees are taken seriously. If the trainees get this feeling they also engage themselves to their assignments and projects. This is what we want to encourage.</p>	<p>We have become used to develop patterns of self-organised learning in several pilot projects and that has been helpful for us. Currently we challenge the trainees to adopt a pattern of self-organised learning from the beginning. We avoid frontal teaching and giving school notes. Instead, we get them used to learn in the style of working tasks and we give them feedback as they get it in the work process (as feedback from client). Currently feedback from worksite tutors is limited (if things go well). A clear deficit is the lack of web-based communication facilities (for exchange of experiences on integrative tasks or projects).</p>	<p>We have chosen this training as our priority and we have been selected out of several applicants. The company has a good reputation as a training provider. We are not afraid of working with teams and projects if it has been made clear what we need to fo on our own. Also we need to know how we can use learning materials and the support of trainers. We feel happy about the phases of training during which teaching at VET school gives support for projects with which we are working at the training workshop of the company.</p>

Remarks on key actors – other actors – other influential factors

Interests of key actors

Key actors	What the key actors want/ can gain
Training managers	<ul style="list-style-type: none"> • Instance A: The training managers want to consolidate the approach of linking the workshop-based training closely to production units and to commit trainers, worksite tutors and trainees in such cooperation.
Trainers	<ul style="list-style-type: none"> • Instance A: Trainers want to see the workshop-based training phase being properly integrated to the subsequent phase in production.
Trainees	<ul style="list-style-type: none"> • Instance A: Trainees have welcomed training arrangements that are based on self-organised learning, integrative tasks and project work. The critical issue is how to get feedback when it is needed most.

Remarks on other actors

a) Trainers of other enterprises	Trainers of other enterprises (as referred to above) have not been interviewed directly for the TTplus project. Contacts with them are related to the preparation of a new pilot project on web-based support for workplace learning (which has been addressed above as 'Instance B'). In this context five other enterprises have been visited by representatives of the company ArcMi-Br (project promoter) and ITB (scientific support).
b) VET School teachers	Teachers of VET school (as referred to above) have not been interviewed directly for the TTplus project. Contacts with them have been made during the preparation of the new pilot project (addressed above as 'Instance B'). In the other pilot region (elsewhere in Germany) the key promoter of the local initiatives and networking is the regional VET school.

Information on other influential factors

Earlier pilot projects (BiBB- & BLK-funding; the IBB 2010 initiative)	The company ArcMi-Br has been strongly involved in several publicly funded pilot projects that have focused on the development of training competences and training patterns since the mid-1980s. In the recent years the company has also played a role in promoting domain-specific cooperation between local/regional enterprises and VET schools.
Current preparation of a new pilot project (BMBF-funding)	Currently the company ArcMi-Br is the key promoter of a designed pilot project to be carried out jointly with ITB). The preparation of the pilot concept has included several meetings with local partner enterprises and the local VET school. The preparation also includes exchanges with the key actors of another designed pilot region.
The implementation of new corporate structures and policies	The company ArcMi-Br has been involved in several organisational mergers. The most recent one, the merger of two large international concerns, has been decided only in the year 2006 and is being implemented at the moment. The implications for the corporate training policies are yet to be seen. At the moment the key actors of the German production site have been optimistic both regarding the development of business prospects and of the training concepts.

6 Instances of Change: Web-based support for workplace learning

- Presentation of 'Instance of Change B' related to the German case 3 ("ArcMi-Br")

Introduction

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- **Instance B (IB)** – extension of innovative practice or complementary measures.

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- **Instance B (IB) "Providing web-based support for decentralised training/ learning"**
The aim is to develop web-based learning facilities that make it possible for different actors in decentralised learning processes to maintain communication and to shape their own learners'/ trainers'/ supervisors' contributions.

What problems do the “instances of change” address?

- **IB:** Decentralised learning (that takes place at diverse worksites and includes self-organised learning from trainees) needs effective support structures. However, the questions that arise at the worksite may require answers from the training managers (project leaders) or from VET school teachers or from full-time trainers. In particular such needs arise if the trainees’ assignments are contributions to common project results.

How are the problems to be resolved?

- **IB:** The required web-based support is to be incorporated into the development of working and learning tasks and into the overarching projects. The participating trainers, teachers and trainees are instructed to develop their user-profiles and their basic patterns of interaction and mutual information with the help of web 2.0 technologies.

The key actors involved – IB:

- Training manager (project promoter)
- Trainers of other companies
- VET school teachers
- (Trainees – not yet involved in the initiative)

Describe the consequences of/ satisfaction with such changes:

- **IB:** The initiative to develop web-based support emerges from the company-specific development of workplace learning but seeks to broaden the basis of participation. It is confronted with the uncertainty concerning the newer “web 2.0” tools and instruments and with frustrations on the earlier less interactive web platforms. Currently the initiative is in the preparatory phase and diverse actors are clarifying their roles in the initiative.

1.3 The “instances of change”

Below the narrative from the perspective of external observers:

- **Instance B (IB) “Providing web-based support for decentralised training/ learning”**

So far the initiatives to promote self-organised learning with *working and learning tasks* and with *joint production-oriented projects* have been one-off exercises. There are no cumulative resource bases or records of communication that could serve as resources for new learners and their supervisors. Furthermore, the good experiences are not easy to disseminate because of capacity problems or because of organisational hurdles.

Regarding the use of interactive web technologies, the discussion has been dominated by educational technologists in higher education or by pioneering projects in general schools or in adult education (non-formal learning). The background experiences with working and learning tasks and with production-oriented joint projects provides a possibility to link new web competences to support individual learners, groups of learners, communication between trainees and their supervisors (trainers/worksites tutors) and with subject teachers at VET schools.

As the web-related support initiative is only at a preparatory stage it is not possible to report on real consequences or on the satisfaction with the initiative based on actual experiences. The stakeholder positions can at best be reconstructed on the basis of preparatory talks.

The narratives told from the perspectives of different key actors *and* their mutual relations

Below the “instances of change” are presented from the perspective of the related key actors and action contexts. The narratives have been presented from a group-, organisation- or community-oriented perspective (“We” instead of “I”) and they address expectations on other counterparts in training-related cooperation. The main emphasis is given on the development of mutual relations in the training activities or training-related cooperation.

Instance B: Key actors in the local cooperation environment (partner organisations, their trainers, VET school teachers)

<u>Training manager (project promoter)</u> <u>vis-à-vis partner organisations (IB)</u>		<u>Trainers of other companies vis-à-vis</u> <u>ArcMi-Br and the VET School (IB)</u>		<u>VET School teachers</u> <u>vis-à-vis Trainees (IB)</u>
We would like to expand our current practice with integrative <i>working and learning tasks</i> and joint projects. In particular we want this practice to be acknowledged in the interim examinations and final examinations. In this respect we need to get other enterprises, the VET schools and the chambers (the examination authority) to work together. We have a tradition of regular working groups but we need to strengthen the cooperation and in this respect the designed pilot activities with web facilities.		We are informed of the development of training activities at the company ArcMi-Br and we would like to make use of similar integrative tasks and projects. However, as smaller training units we cannot implement them on our own. Yet, if there is a wider local cooperation in which the VET school is also involved, we want to participate as contributors to a joint initiative. We may also be interested in sending our trainees to other companies (and vice versa).		We have followed the development of training arrangements at the company ArcMi-Br and we have tried to link our teaching to projects already before. Yet, because of different time-tables this has not been that easy. If other companies are involved in similar projects and we have a joint web-based support facility, this makes it easier to link our teaching blocks to training periods in our local partner companies.

Remarks on key actors – other actors – other influential factors

Interests of key actors

Key actors	What the key actors want/ can gain
Training managers	<ul style="list-style-type: none"> • Instance B: The training manager (as project promoter) wants to extend the impact of company-specific developments via partnership cooperation and via developing the patterns of examination. The role of web-based facilities is to support projects and self-organised learning.
Trainers	<ul style="list-style-type: none"> • Instance B: Trainers expect the web-based platform to provide more support facilities for self-organised learning, knowledge sharing and learning from each others' experiences.
Trainees	<ul style="list-style-type: none"> • Instance B: Trainees have not yet been involved in the preparation of the new initiative. Some indications on their web competences and on their willingness to work with web resources have been noted.

Remarks on other actors

Trainers of other enterprises	Trainers of other enterprises (as referred to above) have not been interviewed directly for the TTplus project. Contacts with them are related to the preparation of a new pilot project on web-based support for workplace learning (which has been addressed above as 'Instance B'). In this context five other enterprises have been visited by representatives of the company ArcMi-Br (project promoter) and ITB (scientific support).
VET School teachers	Teachers of VET school (as referred to above) have not been interviewed directly for the TTplus project. Contacts with them have been made during the preparation of the new pilot project (addressed above as 'Instance B'). In the other pilot region (elsewhere in Germany) the key promoter of the local initiatives and networking is the regional VET school.

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Current preparation of a new pilot project (BMBF-funding)	Currently the company ArcMi-Br is the key promoter of a designed pilot project to be carried out jointly with ITB). The preparation of the pilot concept has included several meetings with local partner enterprises and the local VET school. The preparation also includes exchanges with the key actors of another designed pilot region.
The implementation of new corporate structures and policies	The company ArcMi-Br has been involved in several organisational mergers. The most recent one, the merger of two large international concerns, has been decided only in the year 2006 and is being implemented at the moment. The implications for the corporate training policies are yet to be seen. At the moment the key actors of the German production site have been optimistic both regarding the development of business prospects and of the training concepts.

