

# The Globalization Technology Competency Framework for the Knowledge Worker – an E-Learning Program for Enterprise Resource Planning

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## Abstract

The requirements for knowledge workers are changing rapidly. Computer literacy is required on all levels of work in today's society. The next trend will be "global technology literacy": As more and more organizations, in particular in the field of Information and Communication Technologies, work in the global context, curricula and corresponding competencies need to be adapted. We present a framework for global technology competencies, showing necessary competencies for future knowledge workers. We illustrate our concept using a pilot implementation: an E-Learning program on Enterprise Resource Planning Systems.

Keywords: Global Technology Competency Framework, Enterprise Resource Planning Systems, Culture Profiles, E-Learning

## 1 Introduction

The main goal of this paper is to show trends and solutions for IT-related knowledge workers. We present a concept for the internationalization of a competency-based curriculum for Enterprise Resource Planning Systems and a pilot implementation.

Working in a global context requires new competencies from organizations and individuals. Teams are distributed around the globe in different relations. Typical situations are

- **Distributed development:** Developers of Information Systems are distributed around the globe, working on a common task. This includes outsourcing and off-shoring solutions.

- **Global distribution:** Information Systems are developed for multiple markets. This includes the adaptation of components of a system, such as adapting processes or user interfaces.

Enterprise Resource Planning (ERP) systems are particularly exposed to global challenges. Most enterprises using ERP systems are acting in a global context. This leads to new requirements regarding the design and development of ERP systems and the users of those systems. The described problems lead to challenges for both, the ERP development process as well as the training process for potential users. Currently, most educational programs neglect competencies to act successfully in a global working environment (Waks 2003).

In this paper, we focus on challenges regarding the development of adequate curricula and training systems. We present a solution how globalization competencies can be included in a curriculum for training for ERP systems. We illustrate our concept presenting an E-Learning solution for the training of students on ERP systems. We present a roadmap how this solution will be extended for a global program.

## 1.1 Global Information Systems

Global Information Systems (GLIS) describe a class of information systems which are developed, used, and/or distributed in a global context (Pawlowski 2008b). In other words, parts of the lifecycle of a system are performed in globally distributed locations. As an example, Enterprise Resource Planning (ERP) systems are a typical instance of Global Information Systems as they are usually used in globally distributed organizations.

Stakeholders involved in the lifecycle of GLIS face different challenges within the lifecycle. Typical scenarios are:

- **Internationalization / Adaptation:** Contents of an information system are designed and developed and then adapted to or adopted in a different country. This can include the export of systems or components.
- **Cooperative development:** Products or services are developed cooperatively in different countries. This includes outsourcing / offshoring solutions.
- **Mobility:** Individuals work in different locations as part of an organizational exchange or mobility program or as part of their individual career planning.

Of course, these scenarios cover not all internationalization scenarios and challenges but they show the main aspects and typical challenges for institutions and individuals. For those scenarios, different problem fields can be identified. In general, individuals and organizations need specific competencies to act successfully in those scenarios. A variety of studies have identified influence factors on globally distributed processes and teams:

CARMEL (1999) defines five main barriers for distributed teams: *geographical dispersion, loss of communication richness, coordination breakdown, loss of team awareness, cultural differences*. EVARISTO ET AL. (2003) extend Carmel's approach and identify the following influence factors for global teams: *trust, level of dispersion, type of stakeholders, type of projects, synchronicity, complexity, systems methodology, perceived distance, policy and standards, culture*. This very comprehensive classification gives an orientation which challenges are faced by organizations and individuals in a global work context. In a following publication, PRIKLADNICKI, AUDY, & EVARISTO (2003) provide also recommendations for

global organizations. In particular, a well managed (maturing) process, careful preparation, and continuous knowledge exchange can positively influence global projects and work processes. Furthermore, the competencies of individuals and stakeholders in the process play a crucial role. This regards mainly the ability to manage and communicate in intercultural teams (cf. Sangwan et al. 2006).

One crucial aspect is the exchange and distribution of knowledge (Holden 2002). Global knowledge sharing is still a challenging but highly significant task. Global organizations or temporary partnerships work distributed all over the globe – more and more study programs include learners from all over the world in E-Learning study programs like the one addressed in this paper. This means that globally distributed teams need to be supported to work effectively and efficiently.

Based on these approaches, the following influence fields can be derived. For each field, we briefly outline the challenges for individuals in the field of Global Information Systems as well as the key aspects for the corresponding training instruments.

1. *Culture*: Cultural aspects are a crucial success factor for Global Information Systems. Different levels of culture (e.g., national, regional, organizational, cf. Pawlowski 2008) influence work and learning processes. Individuals need to be prepared to analyze, reflect, and react towards their partners' and their own cultural characteristics. In training settings, cultural aspects regarding the contents, communication, or learning styles need to be considered (Edmundson 2007).
2. *Coordination and Communication*: In distributed teams, heterogeneous values, norms, and behavior can lead to problem situations, conflicts, and misunderstandings. Common ways of communication need to be agreed and facilitated. Additionally, coordination mechanisms need to be defined and performed. For training settings, this means that learning scenarios need to be adapted, in particular for collaborative learning settings.
3. *Knowledge Management* plays a crucial role for the success of Information Systems, in particular when work processes are coordinated around the globe. Therefore, supporting instruments and mechanisms need to be defined to continuously enable and ensure knowledge transfer between the stakeholders involved.
4. *Competencies* regarding inter- and cross-cultural aspects need to be assured in all parts of development teams. Training settings should take those key competencies into account when preparing individuals to act in global settings.

Those key aspects will be incorporated in our framework for global technology competencies.

## 1.2 Global Technology Competencies

Which are combined competencies needed for ICT literacy in a global environment? This is the main question for our research. This paragraph outlines the need and potential solution approaches for a framework for global technology competencies.

Generally, competencies can be defined as knowledge and skills applied in an unknown complex problem situation (cf. Adelsberger, Ehlers, Schneckenberg 2008). This problem situation is context-dependent and cannot be predicted. In international ICT projects, a variety of situations can occur depending on the countries, organizations, and cultures involved, the position of the stakeholders, and the characteristic of tasks. As an example, modeling and mapping business processes is a crucial task in an ERP environment. The competency to model a business process for a German enterprise does not mean that the user would be able

to model a multinational business process with a different contextualized, culture dependent business logic. For this competency, local or regional (business) cultures need to be taken into account, requiring to reflect on culture-dependent business processes and to interact with colleagues in a common communication scheme.

However, certain generic competencies can prepare individuals to acquire such competencies. Generally, two main aspects must be taken into account:

- *Computer /ICT literacy*: The importance of computer literacy and e-skills is well documented and also reflected in recent policies within Europe (European Commission 2007). However, curricula in schools and universities still focus on localized approaches and do rarely take the global dimension into account (cf. Schuerholy-Lehr 2007, Waks 2003).
- *Intercultural competencies*: As a second main area, competencies to act in intercultural settings have to be considered. This field of research focuses on different aspects, such as intercultural management or communication aspects (Stier 2006).

Those competencies as separated competencies do not necessarily accumulate to a combined global technology competency. Therefore, it is necessary to analyze how those competencies are currently combined in educational systems.

As a first step, curricula must be analyzed regarding global competencies, as Higher Education institutions as well as corporate training are affected by the influences of globalization (Waks 2003). The need for globalization competencies becomes even more important when working in developing countries (cf. Roy 2005) which is often the case in particular when organizations choose outsourcing models. However, current curricula in IS education (Gorgone et al. 2006, ACM 2008) rarely take those aspects into account. The current ACM model curriculum on Management Information Systems addresses globalization issues in many fields such as policy, market organizational issues (Gorgone et al. 2006) but does not address corresponding competencies. As a further example, the German model curriculum for Business Information Systems (WKWI, 2007) does not even address the topic of globalization or globally distributed work.

Therefore, a framework for the combination 1) ICT literacy and 2) globalization literacy is of crucial importance. As a first step, potential candidate approaches must be analyzed and, if suitable, incorporated in this framework. Curricula and competency frameworks for intercultural communication (cf. Stier 2006) and intercultural management (cf. Sørderberg 2002) are critical but already well-defined. Therefore, we focus on competencies for globalization issues for ICT developers and users. As an example, COGBURN (1998) describes key areas for ICT literacy and globalization, such as acting in virtual teams, acquiring knowledge at any time, or working independently of space and time. These areas on top of the success factors derived in 1.1 should be part of a global technology competency framework.

## **2 Case Study: E-Learning Program on "Enterprise Resource Planning (ERP)"**

In this part, we show a case study on how competencies are acquired for the field of Enterprise Resource Planning Systems in a program for Higher Education students.

Pure practical knowledge (e.g., the knowledge of how to use software applications) is not the subject of university courses. The students' competitive edge is increased, however, if they have in one of the fields of knowledge (e.g. Enterprise Resource Planning (ERP)) not only theoretical and methodical skills but also practical knowledge.

Research shows that dealing intensively with a topic area not only subsequently acquires the necessary skills and practical knowledge, but also goes beyond competencies (cf. Adelsberger, Ehlers, Schneckenberg 2008). For this to happen, suitable competency-favorable learning arrangements are required, i.e., learning situations, in which self-directed contingency approach and application-oriented learning is demanded and promoted. Examples of such learning arrangements are well designed, 'case study'-based E-Learning courses, since these support the self directed and learning situations. It is of utmost importance that students are encouraged to reflect on a regular basis on the subject within the scope of the course. This enables the student to gain theoretical knowledge from dealing with a subject on a practical level simply by using reflection and subsequently testing the findings in practice. Generalized knowledge based on practical experience is generated which maintains - unlike purely abstract knowledge - a situational reference; despite the fact that the knowledge was gathered on the basis of one individual case it can still be applied on a more general basis.

This consideration is the basis for our concept of coordinated ancillary courses in the ERP area which teaches the general handling of the SAP software. Additionally, we select learning arrangements cleverly, so they can help the students to develop skills, settings, and competencies which go beyond pure practical knowledge.

The program which started in the summer term of 2006 as part of the online master's graduate course for virtual further education in business informatics (VAWI, [www.vawi.de](http://www.vawi.de)) had initially 63 participants but meanwhile over 800 students take the course per semester.

## 2.1 Competency fields

The concept of the ERP ancillary courses includes six central fields of competency which are linked with each other. The goal of the consolidation is to prepare the students for the daily job routine of an IT specialist esp. in the ERP resp. SAP area in order to make the switch from course work to real work easier. The six fields of competency are:

1. *Analysis of business scenarios*

A prerequisite for acquiring an IT specific problem solving ability is that a person has the ability to understand and analyse a business reality. Based on this analysis, problems can be extracted and subsequently solved.

2. *Classification of ERP topics into a business environment*

In addition to an understanding of business circumstances, it is also of utmost importance to understand IT specific or in our case esp. SAP specific circumstances within an ERP context. One has to have the ability to class the relevant SAP topics into a business context in order to conclude in a given problem scenario if the use of ERP systems makes sense and if so, in what form.

3. *Integrated consideration of business processes*

For the job knowledge in an IT context it is important to learn early on to look at business processes in an integral way. This means that when looking at business processes that include artificial barriers (barriers are usually part of the operational reality) they will require solving, no matter if these barriers are of an economic

(departments, specialization) or technical (heterogeneous system environment, different IT systems interacting) nature.

4. *A view on the end user of ERP systems*

In order to put ERP systems successfully into practice, it is important to understand how the end user experiences problems, but above all how the end user uses ERP systems and how he/she interacts with the system (user interface operation, screen set up, screen logic).

5. *Design solutions by using ERP systems*

The integration of ERP systems into business contexts is the basis to create solutions for extracted problem scenarios by using ERP system while taking all business process into consideration.

6. *Implement solutions by using ERP systems*

In order to implement a solution for a business problem scenario into the practice, it is essential that the designed approach, in consideration of all wishes and habits of the future end user, is implemented and tested on a practical level in the ERP system.

Those fields of competency build on each other and are learned and solidified by using and applying them to real-life scenarios.

## 2.2 Concept of the e-learning program

The concept of the ERP ancillary course aims to give students on the one hand theoretical knowledge in the relevant ERP topics and on the other hand give them practical knowledge by working on a SAP system. The student is taken through the topics intensively by combining theory and practice and by step-by-step reorganization of instructions into pure task breakdowns. In combination with the change of the range of duties they should be capable of understanding the topic both on a theoretical as well as a practical level and also use their knowledge in unknown situations using abstraction and reflection. The student develops competency.

In order to achieve this, two central elements are of importance, since they support the development of competency within the student. The first element is the design of case studies. The design of the case study is largely responsible if and in what form the student is inspired to combine the theoretical details to the relevant topic with the practical "eradication" of instructions in the SAP system, so he is in a position to identify and analyse problems independently and to design solutions for these problems and then subsequently to implement them into the SAP system.

The second central element is the mentoring of the student by a tutor. It is important that the students have a competent contact person, a tutor, due to the complex facts both from a business as well as a technical IT point of view and which are the subject of the courses but also in combination with the aim of the program to be accessible to students which are inexperienced in SAP. It is the duty of the tutor to help the student with his questions, while the tutor slowly changes in the process of the course from the classic teacher to an advising coach (scaffolding) with the aim to inspire the student to act independently.

The tutor has not only an important job with regards to mentoring the student. He also has a big part in continuously developing the courses. Another job of the tutor is to observe the behaviour of the students and to give recommendations for enhancements/revisions of the case studies to the development department.

The concept is illustrated with the example of the course "Advanced SAP ERP Customizing":

The online course "Advanced SAP ERP Customizing" deals with the organisation and process customizing in SAP ERP. The subject of customizing plays in the ERP field a central role, hence the development process emphasized the design of an open course suitable for students of business economics, business informatics and computer sciences. The course requires the prior attendance of the courses "Integrated business process with SAP ERP (TERP10)" and "Introduction in SAP ERP Customizing" to ensure that the student is already fluent in working with the SAP ERP system from the point of view of the end user and on the other hand understands the customizing of organisational units within an SAP ERP system. As regards to content, the course is split into two logical sections which are each supported by case studies.

The first course section is aimed at teaching the student the underlying theory of customizing as well as practical handling with the central customizing tools in SAP ERP, the IMG (implementation guide). The student learns how, by combining and analysing different business sources, an organisational chart and a business process model for a company can be created and subsequently mapped in SAP ERP, i.e. they receive an abundance of tools which they are expected to use independently later in the course in previously unknown situations. The supporting case study for this course section is the "MEN AG" (Motorsport Essen Nitro AG). The case study shows the student, at the example of a fictitious company MEN AG, step by step on

- how initially on the basis of gained company internal information a problem can be identified,
- how to potentially approach the problem analysis and
- how to create an approach for the solution.

Subsequently the students map the approach in defined partial steps by SAP ERP customizing. The MEN AG case study has hence the function to package the theoretical context into a business scenario and to show the student by these means step by step the way from identifying the problem to solving the problem by integrating him into the scenario.

It is the tutor's task in this phase of the course to accompany the student in his studies and to assist him with questions and problems by giving him quick feedback. Mistakes that occur are explained to the student and are fixed with the participation of the student. At this stage the tutor performs the role of a teacher.

The second part of the course is aimed to give the student the opportunity to approach the tasks of customizing independently, to extract problems, to analyse them and to create solutions and to map them subsequently in the SAP system and to become competent in the topic.

Also this course section is supported by a case study. "WOMEN AG" (Werden OLCD Manufacturing and Equipment Networks). The WOMEN AG case study consists mainly of the description of a company scenario and an unsorted collection of information from different parts of WOMEN AG and a simple instruction to the student: "Solve the problem!"

### **Step 1 (Competency field 1):**

The student's task is to combine the unsorted information, to analyse which parts are relevant and to extract the problem. The WOMEN AG has in many aspects similarities with the MEN AG situation to give the student a point of reference, i.e. the student now has to abstract and reflect the known to find a way to extract the problem of the new scenario. The only sources he has available are the information and knowledge from the MEN AG case study as well as the facts about WOMEN AG. In this phase the tutor is no longer the student's teacher, but he

takes on the role of a coach who gives the students focused approaches to inspire the student to find solution independently, helping the student to help himself.

**Step 2 (Competency field 2 and 3):**

Once the student has identified the problem independently, he now has to analyse on how he/she can approach the solution with SAP ERP customizing. For this scenario, he has to bring together the relevant business processes of WOMEN AG and to create an integral vision (beyond departmental barriers of production, controlling and logistics). On the one hand, the information and know how from the MEN AG case study as well as the facts on the WOMEN AG and on the other hand the competencies on integral business process analysis acquired in the course "Integrated business process with SAP ERP (TERP10)" become part of this when the student works on this subtask. Once more the tutor takes on the role of a coach in this phase.

**Step 3 (Competency field 4 and 5):**

Once the student has identified on one side the problem and on the other side the WOMEN AG context, he then designs an approach while considering the end user's point of view as per the course "Integrated business processes with SAP ERP (TERP10)". The approach is then sent to the tutor, who in turn gives the student feedback accordingly. If the approach makes sense for the given problem, then the student proceeds to step 4. If not, then he has to revise steps 1 to 3 again, while the tutor tries to guide the student depending on the severity of the mistakes in the approach and their discrepancies.

**Step 4 (Competency field 6):**

After the tutor's approval of the student's approach, the student then proceeds to map his solution independently in SAP ERP. Once the system customizing is completed, the student initially tests the result by doing some test entries. Then he informs his tutor about the completion, who in turn checks the student's customizing work in the SAP system for correctness and at the results of test entries from the point of view of the end user. The course is completed successfully if the designed approach is mapped correctly in the SAP system. The tutor is once again a coach in this phase and not a teacher.

## **2.3 Evaluation**

The course evaluation includes the result of qualitative interviews as well as the observations made by the tutor during the course. This is not about the elimination of small mistakes but the analysis of how the spheres of competency development can be supported additionally and by which means. The experience of the past three years show that the development of such a combined feedback system, allows an effective and broad further development of the concept during each revision of the case studies or when new topical courses are designed.

The results from the qualitative interview show that the didactic model in combination with e-learning was very well received by the students. The students found the following aspects very positive:

- the combination of theory (both for the relevant SAP product as well as concerning the business context) and the practical work on a SAP system
- the practical approach/relevance of the scripts on the basis of the case study design
- the necessity to find approaches independently (application of knowledge) and practical mapping within the SAP system
- mentoring quality by the tutors



- e-learning and the mentoring concept enables the student to learn any time and anywhere

Especially interesting were the comments of the students on the VAWI course ([www.vawi.de](http://www.vawi.de)). Since 95% of the VAWI students are employed, those students have very high demands with regards to relevance to the practice of their courses as well as the compatibility of their studies with their work commitments. Hence it was exceedingly good to hear that this group of students, when giving their evaluation, remarked positively on the courses' relevance to the practice, the quality of the mentoring and the e-learning aspect. Many VAWI students were sure that without the e-learning aspect, i.e. studying whenever and wherever they want, they would not have been able to take part in such a course.

The students expressed that they would like to see the following central parts improved:

- further development on background information about the relevant SAP systems
- supply of business economics materials to the student as additional course material to fill potential gaps in this area quickly and from one source
- integration of further SAP products into the program
- development of the program towards SAP certification
- extension of offer to English speaking students

Some of the suggestions, e.g. the development of additional course material for economics and the development of background information, are already going to be implemented for the winter term 2008/09. For the winter term 2008/09 it is also planned to encourage the students to create reference materials from a student's point of view by using wikis. The wiki will be a mutual support system and part for the evaluation for the relevant courses (quasi an analysis of unconsciously stated criticism/praise by the students).

In addition to the course program, a SAP certification is carried out in cooperation with the SAP University Alliance. In November 2008, the first TERP10 certification is planned in cooperation with the SAP University Alliance (UA) for about 330 participants. When the students pass their exams then they receive their original SAP certificate.

Another wish from the students is implemented for the winter term 2008/09: the program is extended by the SAP product SAP CRM. For the first time the course language is going to be in English. Hence the course "Introduction to SAP CRM" serves as a test for the internationalization of the program. The positive experiences from the case study are used as clues to research the critical success factors of a competency orientated e-learning program and to focus the course program respectively.

### **3 A Research Agenda: Towards a Global E-Learning Program on "Enterprise Resource Planning (ERP)"**

After the successful implementation of the piloting group, we will extend the concept towards an international target group. This program is representative for the combination of ICT and globalization competencies: It incorporates the main characteristics of those two fields in a highly complex domain. The experiences gained can be transferred into other, less complex working and training domains. Two main issues are addressed:

- *Internationalization of the E-Learning program:* We discuss how the curriculum and courses are prepared, adapted, implemented, and validated in the international environment.
- *Global technology competencies:* We discuss which skills and competencies should be addressed in a program, educating people working with ICT in a global context.

Our main assumption is that successful programs and resources can be re-used and adapted to new contexts and cultures. This assumption leads to two main steps: 1) Adaptation of the program and 2) incorporating globalization technology competencies. Our implementation model is outlined in the following paragraph.

### 3.1 Global Technology Competency Framework

The adaptation process includes the development of country-specific instances of our global technology competency framework. The main idea is to combine ERP- / domain-specific competencies with generic globalization competencies and to apply them to realistic situations in a global working environment. By this combination, in particular in case studies, multi-national groups apply their knowledge and skills to complex situations and work towards the acquisition of combined competencies. The following figure shows the main competency areas and their application in the context of multi-national and multi-cultural groups.

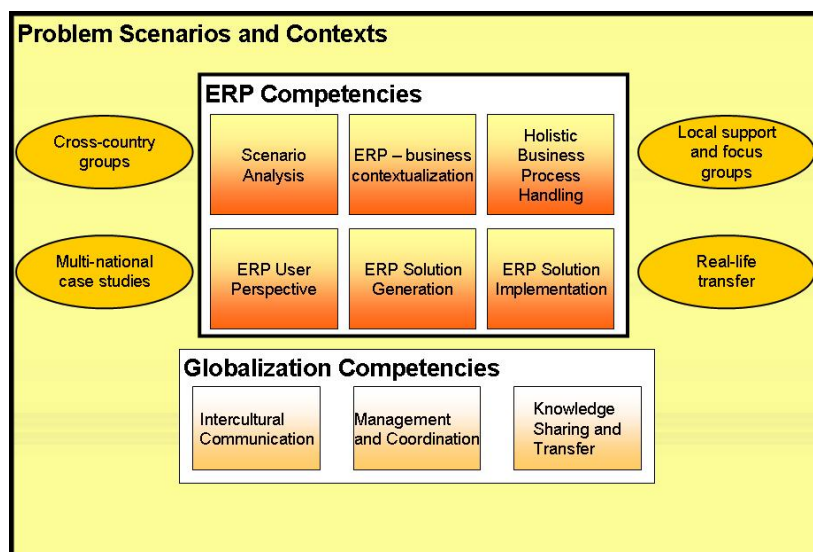


Figure 1: Global Technology Competency Framework

The main idea of this framework is the application and combination of skills in the international environment. Each competency field is assessed in the course program and then individually enhanced.

By using this framework, we can develop individual competency profiles (e.g., for different user groups). All of them are applied in realistic cross-border scenarios.

## 3.2 Implementation Agenda

The successful implementation of an internationalized program is used to validate and continuously improve the competency framework. The steps define clear feedback mechanisms to develop a transferrable competency profile for a variety of domains.

### Culture analysis and profiling

As a first step, we will analyze our target countries and groups addressed by the program. For each group, culture profiles (Pawlowski 2008a) will be elaborated as a representation of the main aspects to be considered in the adaptation process. The following figure illustrates the culture profiles and representation formats.

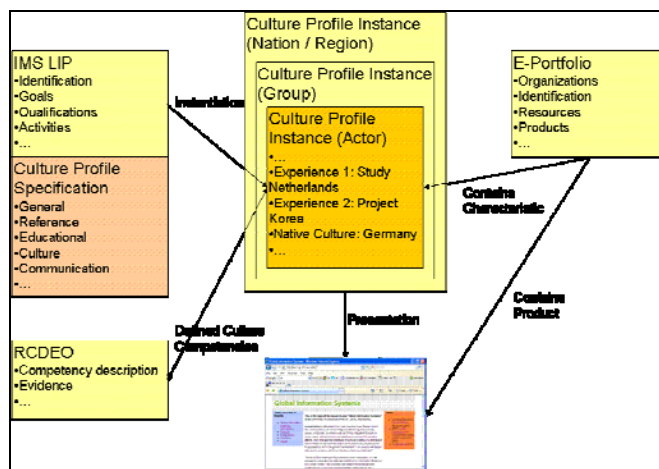


Figure 2: Conceptual Embedding of Culture Profiles (Pawlowski, 2008a)

A culture profile represents the cultural characteristics of a certain group such as national, regional, or organizational cultures. The culture profile also is the basis to identify gaps to be used in the competency profile, e.g., it maps communication or educational characteristics. Comparing the profiles between the originating culture (e.g., Germany) and the target group (e.g., middle east) results in concrete adaptation steps: In the mentioned example, collaborative processes could be adapted to the inter-cultural setting. Secondly, the profile is a support for participants to reflect on their own culture and to identify differences between themselves and their fellow learners.

### Adaptation process

In the second phase, generic learning scenarios will be developed for each participating region / country. Whereas the main language will be English, we will identify partner organizations to provide localized support and tutoring. These scenarios will be implemented and validated in small pilot groups and, based on the initial results, extended and modified.

### Preparation and awareness phase

An essential part to incorporate global technology competencies, we will arrange preparatory mandatory workshops to address cross-cultural issues and ICT globalization issues (based on Pawlowski 2008). Each group consists of distributed learners across the participating countries. This phase leads to an awareness and reflection process, identifying gaps and individual profiles to be addressed in the forthcoming trainings.

In global working and learning processes, problems are solved in a cooperative setting. Those working and learning processes should be combined with an awareness process integrating the use of Culture Profiles (Fig. 1). The main aim is to facilitate cultural understanding and improving cooperation processes in a real life setting, i.e., working with ERP systems. In a *collaborative work process*, problems are to be solved in a globally distributed team – this can be for example a common programming task or a common group assessment. This process covers the main challenge for global ICT workers: to collaboratively solve a domain specific task. The domain-specific task is accompanied by a *culture awareness process*. Once a project is initiated, project members should initiate a culture awareness process in order to be prepared for the common task. Actors should compare their culture profiles and detect similarities as well as differences. Based on this comparison, all participants should state their observations to summarize their experience. Finally, actors should develop strategies and rules how to deal with differences, e.g., regarding communication, negotiation or learning styles, leading to a better understanding and group integration.

This process outlines the main steps and relations how global technology competencies can be integrated in work and learning processes using an awareness process. The Culture Profiles serve as a basis for analysis as well as for discourse on culture-related characteristics.

#### **Training and productivity phase / Validation and Improvement**

In this phase, the concept will be implemented and adopted on a large scale. In contrast to other training programs, we will provide individual case studies which enable learners to develop solutions in multi-national groups and to acquire competencies for the development and use of ERP systems in global teams. Our concept includes continuous validation and improvement procedures. This also includes the roll-out and inclusion of further countries worldwide.

Based on this concept, we will gain insights into the adaptation process as well as the feasibility of the concept of global technology competencies. The main result will be a refined curriculum on global technology competencies which can then be included and transferred in other programs such as Higher Education settings.

## **4 Conclusion**

The paper has identified one of the main gaps in Higher Education and many training programs: The inclusion of domain-specific globalization competencies, in particular for ICT and Enterprise Resource Planning systems. Based on a successful E-Learning program for ERP systems, we have developed a concept and methodology to incorporate globalization competencies into a global training program. This initial competency model is not limited to the domain addressed in this paper – we encourage research in this field across domains leading to improved competency descriptions and large scale implementations.

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