A Cultural Perspective on Personalized eLearning – Designing Corporate Trainings for Chinese Learners

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Abstract. In a globalized world, as we live in today, corporate training oftentimes takes place online. These online learning environments can be personalized for cultural groups to reach better learning outcomes. This paper examines dimensions for cultural personalization evaluating corporate trainings with Chinese learners. It thus relies on Design-Based Research to develop a toolbox along cultural dimensions and aspects of personalization. The aim is to help trainers to adapt trainings to the Chinese target group with the focus lying on the didactic aspect of how to transfer content to achieve optimal learning outcomes.

Keywords: eLearning, personalization, culture, China.

1 Introduction

In today's globalized world, companies operate as multinational corporations relying on an equally multinational workforce. This implies international teams as well as teams working geographically dispersed all over the world. The indicated circumstance entails the need for an effective functioning of those teams and their work-related activities [1]. Employees in multinational companies often have different levels of education, training needs, learning objectives and motivation to participate. For trainings accompanying software rollouts in locations away from headquarters, reaching the same level of knowledge is generally difficult. It seems as if there is not a single cause, but rather a mixture of aspects causing this problem. For example, people not working in the headquarters might not share the company's understanding of processes, might interpret central directives differently or have divergent previous levels of knowledge [2]. These distinct training needs can be addressed by personalizing learning environments. Ways of personalizing online trainings apart from personalization done by the IT system is oftentimes a more feasible approach due to company regulations and costs. In multicultural and geographically dispersed working environment, a cultural personalization seems promising as cultural differences between nations prevail. Therefore, this paper aims at developing a concept for a cultural personalization, in which trainers consider the cultural background of the learners. Hence, the research question is: **How should eLearning be personalized**

Multikonferenz Wirtschaftsinformatik 2018,
March 06-09, 2018, Lüneburg, Germany

from a cultural perspective for a Chinese target group to achieve optimal learning outcomes?

In order to examine the challenges described above from an academic point of view, the THP@BBM project (Tooling Harmonization Project @ Bosch Business Sector Mobility) at the Robert Bosch GmbH is used as an exemplary case. Within the project, the tooling ordering process in Bosch's automotive central purchasing division is harmonized. The harmonization takes place mainly in the SAP ERP-systems, making training 4.000 end-users located world-wide inevitable. So far, no personalization has been made for the online trainings of the project. This will now change, as the rollout moves to the Asian region, concentrating on China. Improvements are expected from a cultural personalization, focusing on the didactical aspect of how to tailor the way in which trainings are delivered to the Chinese learners.

2 Methodology and Research Approach

Design-based research (DBR) is defined as "[…] a research methodology aimed to improve educational practices through systematic, flexible, and iterative review, analysis, design, development, and implementation, based upon collaboration among researchers and practitioners in real-world settings, and leading to design principles or theories."[3, p. 2]. Main arguments in favor of this approach include establishing a strong connection between real-world problems and educational research [4], improving IT artifacts and implementing an iterative and interactive research process, engaging in integrative research methods and presenting contextual research results [3]. Despite the focus lying on DBR, the set of structures provided by Gupta and Bostrom is also considered to provide a frame for the practical work elaborated within DBR. This frame includes the social setup of the team, the variety of technology to be possibly used and the learning process to achieve learning objectives [5]. A more detailed picture is provided by classifying the research approach into the three epistemological perspectives behaviorism, cognitivism and constructivism. Behaviorism refers to learning taking place when the behavior of the learner himself changes as a reaction to an external stimulus, such as a different learning method. Cognitivism is influenced by the learner's mental setup and his perception of the learning process. Lastly, constructivism encourages learners to develop new ideas based on their previous knowledge. This process is supported by allowing the learner to absorb the information relevant to him in the way, which is most practical for him and eventually drawing his own conclusions [5].

Coming back to the research approach, DBR consists of the following four phases depicted in Figure 1. Phase one outlines the general problem, which is the base for establishing design guidelines. Therefore, a literature review of the state-of-the-art of cultural personalization and eLearning is performed and its results are presented. In phase two, draft principles are derived from the literature to describe the intervention. The DBR-process then continues with iterating, testing and evaluating the proposed solutions by putting them into practice in phase three. As a basis for this evaluation, current trainings in the THP@BBM are analyzed conducting open-questioned interviews. To conclude, the fourth phase reflects the process of deriving design principles, which are elaborated within the toolbox in section 5.

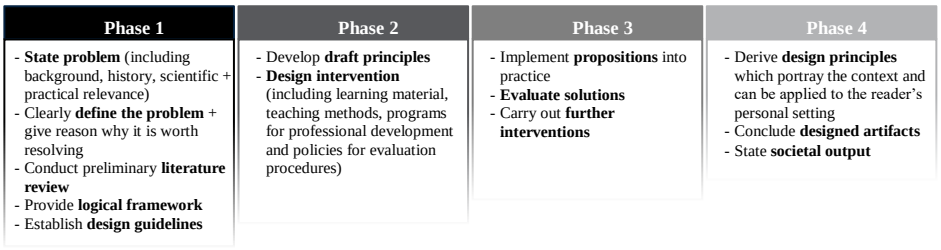

Figure 1: The four phases of DBR (adapted from Herrington et al., pp. 4092–4095)

3 Application of Theoretical Concepts

This paper focuses on corporate trainings taking place in an online learning environment, making use of media such as telephone conferences, social media and video clips. According to Shen et. al, online learning, commonly referred to as "eLearning" „[...] aims to provide the tools to create a personalized learning path and to be able to dynamically readapt learning paths according to user feedbacks and environment changes in order to optimize the acquisition of needed competencies"[6, p. 304]. ELearning draws on the use of different media sources – synchronous and asynchronous, so that learners are able to decide for themselves when, how and where to learn. Traditional eLearning was designed for a homogeneous group of learners or for single anonymous learners without special learning needs and preferences for learning methods. In literature, this concept is commonly referred to as "one-size-fits-all approach" (see also [12]; [7]. Personalization of end-user trainings aims at addressing these challenges and offers the possibility to meet the specific needs of learners [8].

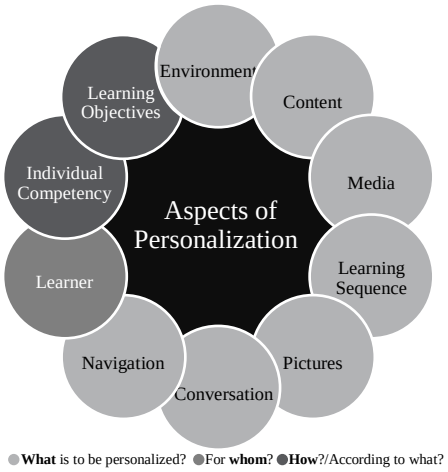

Figure 2: Aspects of Personalization Mapped to Guiding Questions (Adapted from [7] and [10])

As can be seen in Figure 2, the task – or the "what" of personalization – is mapped to several aspects of personalization [9]. First, the **environment** in which learning takes place. A motivating learning atmosphere should be created so that learners are satisfied with the knowledge transfer [8]. Second, the **content** needs to be well incorporated in the personalized learning environment to reflect the preferences and habits of the targeted learners. Third, the **media** used for transferring knowledge. Using the right media is essential for successfully delivering the key message of trainings [10]. The fourth aspect is **learning sequences**. A flexible sequence allows learners to choose how and what they want to learn in which order. Also, the learning environment should be personal through **pictures** of the trainers. Moreover, **conversation** needs to be personalized by e.g. adjusting the language used to the audience. Sixth, the learner has to be able to explore the content provided by personalizing **navigation**. Trainers should concentrate on the **learner** himself and make trainings personally relevant for each member of the target group [9]. Especially relevant for the didactic approach is the "how" of personalization [7]. **Individual competency** of the learner makes it possible to skip parts of the training material already known**. Learning objectives** [9] address the goal of enabling each learner to reach the given objectives [8]. This does not imply lowering the objectives until the whole group reaches them, but in turn focusses on the individual and his strengths and weaknesses.

Following this outline, we can now turn to culture. Culture can be understood as "collective programming of the mind", by which members of one community are distinguished from the members of another [11, p. 6]. Nowadays, everyone is not only cultural but rather multicultural, incorporating patterns from ethnicity, lifestyle and profession [12]. Despite an increasing multiculturalism, cultural issues arise when people are confronted with behavior, which is not compatible with their own cultural background [7]. Hofstede's model of national culture is consulted to gain an insight into cultural differences by outlining the relevant dimensions. The **Power Distance Index (PDI)** measures the degree of inequality within a society. China ranking at 80 is a country with a large PDI. Concerning trainings, the trainer possesses absolute authority [13] with trainings being teacher-centered and passive learners [14]. It is not common for learners to freely express themselves [13]. Germans (35), ranking rather low on PDI, emphasize decentralized organizations with equal distribution of power where it is acceptable to contradict the trainer. The second dimension, **Individualism vs. Collectivism (IDV),** is about a person's perspective on the self-image, defining it as "I" or "we". At 20, China is very collectivistic. In trainings, Chinese learners tend to

perform best in group work. Germans (67) are significantly individualistic. For **Masculinity vs. Femininity (MAS)**, masculine societies strive for achievements, are competitive and status is important, while feminine societies aim for cooperation, take care of the weak and pursue a high quality of life. In China (66), low-skilled employees work many hours and often leave their families to earn a living. For students, it is crucial to which school and university they go [15]. Chinese learners feel comfortable with little-structured learning environments and situations. The **Uncertainty Avoidance Index (UAI)** represents the degree, to which members of a culture feel (un-) comfortable with ambiguity and unknown situations. In China (30), truth is relative, making it acceptable to bend the truth to keep face, no matter whether online or offline [13]. In trainings, the aspect of keeping face is most important for Chinese learners. Also, conflicts should be avoided and harmony be preserved. At 65 in Germany, the UAI implies that people favor clear structures and it is important to live by the rules. "**High Context vs. Low Context**" is introduced as well [16]. High context (HC) cultures such as China require a high level of context and pre-programmed information when communicating. The message itself contains minimal information and the receiver is expected to interpret. Chinese learners heavily rely on non-verbal communication channels [13]. Oftentimes, those channels are unavailable in online learning environments, hindering Chinese learners from extracting cues needed to decode the meaning of the message [13]. Low context (LC) cultures such as Germany transmit most information in the explicit message itself, requiring little body language. Germans often rely on direct communication.

Bringing together eLearning, personalization and culture, what learners perceive to be a good training is mainly influenced by the fit of their cultural norms to those of the training [17]. ELearning often lacks cultural sensitivity, which impedes the learning process and keeps eLearning from unfolding to its full potential when learners are expected to leave behind their culture and follow the trainer's culture ([7], [12], [18]). Cultural personalization does not solve all problems arising within eLearning, but neither does a „one-size-fits-all" approach [12]. Table 1 summarizes the presented literature, formulating draft principles along phase two of DBR.

Table 1: Draft Principles

Draft Principle	*Description*
Draft principle 1: Culturally personalize the eLearning environment to benefit the learner ([19])	Move away from the "one-size-fits-all" approach by meeting learning needs of heterogeneous groups of learners. Increases learning outcomes and motivation to participate.
Draft principle 2: Make use of social media to support the learning process in eLearning ([20], [21])	Reaches more participants more quickly. Hands over responsibility of learning to the learner himself. Allows for independently navigating through learning content.
Draft principle 3: Adopt a clearly pronounced and simple language to increase understanding ([9], [7], [13])	Addresses the differences in general educational approaches between Chinese and German learners.
Draft principle 4: Include non-verbal cues in eLearning ([17], [13])	Facilitates learning for Chinese learners as more context is provided.

4 Qualitative Analysis of Current Trainings

Along DBR, the draft principles are proved and implemented in practice. Therefore, the description of the intervention is necessary. As proposed by Schultze, research by observation is conducted in the first step [2]. For this reason, four online trainings with international participants are observed by joining Skype sessions, listening and making notes. The trainings are all end-user trainings for different IT-tools within BBM. The researcher concludes, that trainings are typically not personalized and thus conducted by a trainer who seems to train in the same way no matter where learners come from. Asian learners did not ask questions or requested further explanations during the trainings. In meetings taking place on a regular basis, a more familiar atmosphere prevailed. Asian learners freely participated in discussions and did not hesitate to state their opinion and engage in discussions. These first impressions are later revisited and set in context with experiences of users who participated in THP@BBM trainings.

Following the cycle of DBR, the intervention is designed to gain a more complete understanding of learner's needs. It thus relies on the qualitative method of conducting open-questioned interviews to better understand whether current trainings are perceived differently from Chinese and German learners. This course of action is also followed by Schultze who relies on informal conversations and unstructured interviews to collect data from participants. For this reason, a sample of eleven employees is drawn. Whenever possible, interviews are conducted in person to establish a personal connection, otherwise telephone interviews are conducted. This is especially relevant for the interaction with the Chinese participants and possible through the researcher being located in Shanghai. The interviews are not recorded to encourage participants to talk freely [2]. During the interviews, key points are documented and afterwards transcribed. Typically, two trainers conduct the trainings. All training material is available online for the users in the wiki of a BoschConnect community, which is an

internal social media platform. Additionally, questions are gathered and answered in a forum, which is intended to encourage end-users themselves to answer questions, which they see and can answer with their personal background.

Most Chinese participants received the training invitation via e-mail, not via BoschConnect. For them, the tooling-topic was new. The Chinese employees participated because the concerned process is relevant for their daily job, whereas the Germans do not regularly work with it and were generally interested in the topic. When discussing missing aspects of the trainings, Chinese participants did not provide feedback. In contrast, German participants requested to be trained in German. Evaluating the structure and content, Chinese participants commented that everything is clear and understandable. Concerning the layout of the slides, they provided positive feedback only, such as liking the simple slides with not too much information and the colors used. Germans were more indifferent, noting that they did not clearly remember the slides as they are designed according to the current Bosch style guide. Feedback about the teaching style can be categorized according to time, content and use of media. Regarding time, both Chinese and German learners commented that sticking to the time planned is highly important. Chinese participants pointed out that the training was planned longer than it actually lasted. They valued sticking to the timeframe planned for a training as more important than answering all open questions. Relating to the content itself, a Chinese participant stated: “providing more details is desirable”. Germans found the amount of information included appropriate. When discussing the use of media, for Chinese participants asking questions during the training in the chat was alright. They would, however, prefer receiving an answer directly during the training. Some German participants had the same opinion. Contrarily, others preferred providing answers via BoschConnect. Comments about Skype as the tool for delivering the content were positive and Skype was regarded as an appropriate medium by all participants. Chinese participants did not express additional wishes concerning the channels of instruction. The same held true for the framework of the training. Only one Chinese participant articulated that the “structure is clear and good”, whereas the German participants suggested again to offer German training sessions and offering trainings in the morning and in the afternoon. Moving to the BoschConnect community, the majority of Chinese participants claimed to have used the community before as well as after the trainings. The design and layout of the community was perceived well and described as “understandable”, very good” and “often updated”. German participants affirmed to not use the community because they do not find the content personally relevant and are confronted with an information overload, trying to block it by not joining communities. The content was generally liked and described as “great”, “clear and easy to use” and “nicely designed”, but also criticized as “difficult to find”. Again, constructive feedback such as adding tags to each post was provided.

5 Discussion & Conclusion

The first iteration with its implementation now leads to the outputs of DBR. The scientific output considers the insights gained from field research to refine the initially proposed draft principles and retrieve design principles. Therefore, the interview results are discussed and interpreted. The environment is strongly influenced by the high **PDI**. Learners have a passive role in trainings [14] and memorize what is presented to them [22], [13]. The trainer should thus encourage the learners to ask questions and engage in discussions. Concerning **IDV**, personal opinions are often held back and the trainer is not criticized as he would lose face [12]. Thus, an active and open learning environment should be adopted by assigning practical tasks to small groups [12]. Next, the impact of **MAS** on the eLearning environment suggests to create certificates for successfully completing trainings. Second, the training content is personalized through a glossary to create a common understanding of frequently used terms. The low **UAI** indicates that it is preferable to first gather as much information as possible to then choose what is most relevant. All training documents should thus be available online. Next, media is considered. **IDV** implies that Chinese learners heavily rely on social media, especially on WeChat, so that the use of an official WeChat account to reach the target group fast and easily is recommended. For communicating with **HC** cultures, merely relying on the audio function of Skype is not enough and should be enriched by e.g. giving video-conferenced lectures. The Chinese preference for vivid colors, complicated-looking designs and games can be addressed by not only relying on PowerPoint slides, but also on e.g. Prezi to engage in story-telling based on flash technology or PowToon for simple animated explanation videos. This adequately addresses the behavioral perspective previously presented by engaging in different learning methods. Regarding the low Chinese **UAI**, one should keep in mind that Asian learners perceive a response time of more than one day as inadequate for answering e-mails as they expect others to check their messages as often as they do [13]. In order to avoid this pressure, forums should be checked regularly, a shared team inbox can be used to process e-mails quickly and creating FAQ pages guarantees reading access at all times. The learning sequence is personalized by making content freely available to learners. Personalizing roles using photographs and pictures is highly relevant in the Chinese **HC** culture. Additional non-verbal cues should be incorporated in trainings as project members uploading their picture to the platforms frequently used. Regarding conversational personalization, a mixture of written, spoken and visual media is recommended for the Chinese **HC** culture. Considering **PDI**, it is advised to use a globalized English and abstain from the use of colloquial language. Trainers have to be aware of the gestures they are using, as some might be perceived to be offensive for Chinese learners. Within the navigational aspect, the low **UAI** indicates that Chinese learners are comfortable with navigating through trainings and training material provided. Examining the learner himself, motivation is crucial for training success. Motivation is higher for voluntary than for mandatory trainings. In this way, the cognitive perspective is addressed. Relating to **MAS**, it is proposed to engage learners in process improvements and officially award the best idea. With this recommendation, also the constructivist perspective is satisfied as learners are encouraged to develop new

ideas. The learner's individual competence is addressed by offering basic and advanced trainings. **PDI** for the last aspect, learning objectives, implies to precisely address the learning objectives. Including a poll at the beginning of the trainings, inquiring the expectations and previous knowledge of the learners encourages a more interactive and learner-centered approach.

These results lead to the reevaluation of the draft principles, which are now adapted and enhanced within Table 2:

Table 2: Design Principles

Draft Principles	*Refinement*	*Design Principles*
1: Culturally personalize the eLearning environment to benefit the learner	The learner benefits when he recognizes personal relevance (which is then intrinsically motivating and establishes a clear understanding of what he is expected to learn) and thus reaches the learning objectives.	Culturally personalize the eLearning environment to benefit the learner by increasing personal relevance to reach the learning objectives.
2: Make use of social media to support the learning process in eLearning	The advantages of social media in eLearning is confirmed. Principle is extended to tools offering synchronous modes of communication (e.g. Skype) for a complete learning framework.	Make use of collaborative tools such as social media to support the learning process in corporate eLearning.
3: Adopt a clearly pronounced and simple language to increase understanding	Need for easily understandable words and slow speed of language is confirmed. The wording is improved.	Deliver eLearning in a well-understandable common language to increase understanding.
4: Include non-verbal cues in eLearning	Need for non-verbal cues is confirmed. Reason is provided.	Include non-verbal cues to address learners from high context cultures.
	A low threshold for contacting trainers and communicating during trainings should prevail. Create a learning environment where learners actively participate throughout the learning process.	Create an active learning environment where learners feel comfortable to communicate with peers and trainers.

Based on the design principles, the design artifacts, which represent the practical output, are composed. Within the frame of this paper, a toolbox is put together, aiming at providing a range of proposals, which can be drawn from when personalizing corporate eLearning for Chinese learners and thus answers the research question. Chinese learners should be addressed according to their previous level of knowledge, be provided with a broad scope of information available whenever they need it and build-up knowledge in small teams where no participant fears to lose face. They feel more comfortable gathering information from different types of media, not displaying a strong need to be guided through each step of the learning process. The feeling of a personal connection eases the barrier to address questions, which can be reached by introducing trainers with a picture and by relying on video conferences. Furthermore, learning objectives should be formulated and communicated clearly. Addressing MAS, learners can often be motivated through awards and certificates. A lot of potential for personalization is seen in the content, where the provision of additional information and the consideration of culturally tinted meaning of e.g. colors, numbers, etc. are considered. The aspect of conversation is personalized regarding an adoption of language to satisfy the needs of power-distant Chinese learners. Moreover, the HC aspect is addressed by relying more heavily on videos and video conferences than only audio tools. The environment can also have a positive affect when being personalized. It includes the cultural elements of the PDI for a clear positioning of the trainer and the use of polls during trainings. The MAS suggests to hand out certificates to the learners and the prevailing collectivism is addressed by engaging in group work. Furthermore, the UAI is satisfied by providing an overview of the agenda throughout the complete training. Lastly, most proposals are made for the media aspect. It is mainly concerned with the PDI for the use of language, allowing basic questions during trainings and the UAI regarding the use of a support concept, FAQ-pages and a shared inbox. The high context aspect indicates to make a strong use of tools, which allow transferring non-verbal cues also and to rely on a WeChat account to reach the collectivistic Chinese learners quickly. Concluding the design artefacts, it is highlighted that recommendations are made based on generalizations, which are not true for all Chinese and can only aim at providing useful suggestions for a broad range of Chinese learners.

Despite the output of the DBR, this paper faced several limitations. First, not the entire design circle is completed but instead relies on initial suggestions. Second, the time span of longer than one week between participating in trainings and interview is perceived as being too long to remember many details. Third, more personal interviews are believed to have led to more detailed results due to the high context of Chinese culture. Lastly, a personal relationship to the researcher is considered to lead to more detailed answers, entitling him to be entrusted with the outright opinion and critique.

In Table 3, the findings are now mapped according to the cultural dimensions of the design principles they address, providing a short summary of the most important aspects.

Table 3: Relevance of Cultural Dimensions on Design Principles

Cultural Dimension	*Design Principle(s) Addressed*	*Relevant for*
PDI	1 (increase personal relevance), 3 (language)	English language, positioning of trainer, handling of questions, reaching learning objectives
UAI	2 (collaborative tools)	Use social media, provide side-information and agenda
HC	4 (non-verbal cues)	Include non-verbal cues
IDV, MAS	5 (active learning environment)	Use WeChat, take care of colors used, provide certificates

The anticipated changes exploiting further benefits for corporate eLearning among Chinese learners are thought to be reached when social media is used in a more refined way. It can thus be additionally studied how far Chinese learners benefit from its use as supporting tool compared to it being relied on as solely used tool when dealing with new theoretical topics. Moreover, further research should be conducted if in the described learning environment, a blended learning approach would better suit Chinese learners.

References

1. Suadamara, R., Werner, S., Hunger, A. (eds.): Cultural Influence on User Preference on Groupware Application for Intercultural Collaboration (2010)
2. Schultze, U.: A Confessional Account of an Ethnography About Knowledge Work. MIS Quarterly 24, 3–41 (2000)
3. Hannafin, M.J.: Design-based research and technology-enhanced learning environments. AERA 2004 Proposal. Educational Technology Research and Development 53, 5–23 [1-6] (2005)
4. Herrington, J., McKenney, S., Reeves, T.C., Oliver, R.: Design-based research and doctoral students: Guidelines for preparing a dissertation proposal. In: Montgomerie, C.; Seale, J. (Eds.), Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications 2007, pp. 4089–4097
5. Gupta, S., Bostrom, R.P.: Technology-Mediated Learning: A Comprehensive Theoretical Model. Journal of the Association for Information Systems 10, 686–714 (2009)
6. Shen, Z., Chunyan, M., Gay, R., Low, C.P. (eds.): Personalized e-Learning – a Goal Oriented Approach (2007)
7. Swinke, T.: A unique, culture-aware, personalized learning environment. International Journal of Emerging Technologies in Learning 7, 1–7 (2012)

8. Gupta, S., Bostrom, R.P., Huber, M.: End-User Training Methods: What We Know, Need to Know. The DATA BASE for Advances in Information Systems 41, 9–39 (2010)
9. Klašnja-Milićević, A., Vesin, B., Ivanović, M., Budimac, Z., Jain, L.C.: E-Learning Systems. Intelligent Techniques for Personalization. Springer, Switzerland (2016)
10. O'Donnell, E., Lawless, S., Sharp, M., Wade, V.P.: A Review of Personalised E-Learning: Towards Supporting Learner Diversity. International Journal of Distance Education Technologies 13, 22–47 (2015)
11. Hofstede, G.H., Hofstede, G.J., Minkov, M.: Cultures and organizations. Software of the mind: intercultural cooperation and its importance for survival. McGraw-Hill, New York (2010)
12. Uzuner, S.: Questions of Culture in Distance Learning: A Research Review. The International Review of Research in Open and Distributed Learning 10, 1–10 (2009)
13. Tu, C.-H.: How Chinese Perceive Social Presence: An Examination of Interaction in Online Learning Environment. Educational Media International 38, 45–60 (2001)
14. Bing, W., Ai-Ping, T.: A comparative analysis of learners interaction in the online learning management systems: does national culture matter? Asian Association of Open Universities Journal 3, 1–16 (2008)
15. Friesner, T., Hart, M.: A Cultural Analysis of e-Learning for China. Electronic Journal on e-Learning 2, 81–88 (2004)
16. Hall, E.T.: Beyond culture. Anchor Books, New York (1989)
17. Bentley, J.P.H., Tinney, M.V., Chia, B.H.: Intercultural Internet-Based Learning: Know your Audience and What They Value. Educational Technology Research & Development 53, 61–69 (2005)
18. Richards, G. (ed.): Cross-Cultural Adaptation of e-Learning Contents: a Methodology. Association for the Advancement of Computing in Education (AACE), Chesapeake, VA (2015)
19. Attwell, G.: Personal Learning Environments - the future of eLearning? eLearning Papers 2, 1–8 (2007)
20. Turner, J., Ley, T., Ruohonen, M., Tatnall, A. (eds.): Open and Social Technologies for Networked Learning. Learner Experiences and Perceptions of Using Social Media Tools in Formal Workplace Learning / Learning with Social Technologies: Workplace Learner Experiences of Wiki and Blog Perceptions of PLE. Springer (2012)
21. Seufert, S., Lechner, U., Stanoevska, K.: A Reference Model for Online Learning Communities. International Journal on E-Learning 1, 43–55 (2002)
22. Selinger, M.: Cultural and pedagogical implications of a global e-learning programme. Cambridge Journal of Education 34, 223–239 (2004)