

Innovative training of oral communication: Berlin Kompass

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Abstract. In a classical instructed language classroom setting, the practicing of communication situations is too often limited to producing isolated phrases and sentences without actually testing their relevance for the intended action. An example is describing and finding a route. In this paper, results of the early pilots with a collaborative virtual language learning environment, especially intended for learner-centered training of oral communication skills, called *Berlin Kompass*, are presented. It is a new kind of a holistic and gamelike approach. A multimodal, interactive communication and action environment consisting of authentic Berlin-panoramas enables experiential learning. The communication happens in an immersive context, in which acting, problem solving and description of visual surroundings are trained collaboratively and combined with embodied interaction. The pilots, with around 200 language learners in upper secondary school and at university level, have shown that the authentic situation and the inbuilt multimodal scaffolding of the *Berlin Kompass* system motivates and enables for language learners on different levels to successfully exercise their oral communication skills in the target language. Interesting examples for the remarkable variation in the ways and strategies are given of what the users made use of in order to fulfill the task to reach a tourist attraction.

Keywords: virtual panorama world, embodied interaction, holistic training of oral communication, pair collaboration.

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1. Introduction

The continual challenge in formal education is to find various ways to support different types of learners in an appropriate way in order to keep their learning motivation alive. This is very essential also in foreign language education. During my PhD project, I have been searching for new ways of applying interactive computer technology to create new kind of learning possibilities, especially for oral communication skills (cf. Pihkala-Posti, 2012; Pihkala-Posti & Uusi-Mäkelä, 2014). Describing and finding a route is a situation in which a traditionally instructed classroom approach with a map often used for pair conversations does not give an equal learning experience, as moving in a real visual environment according to the given instructions would offer. This means often isolated phrases and sentences are produced with the pair without experiencing their relevance and adequateness in action. In contrast to actual real life situations, there are no consequences even if the advice given is incorrect or misunderstood (cf. Pihkala-Posti et al., 2014). In order to see whether an interactive virtual authentic-like environment could create a new way to enhance learning, I started developing and researching this. With computer scientists of University of Tampere in an interdisciplinary research project, it was possible to further develop this idea of a virtual, authentic-like approach for training orientation in a target language environment.

In this paper, our collaborative virtual language learning environment, called *Berlin Kompass*, and interesting findings of the series of pilot studies in autumn 2013 will be presented. In the environment, two remotely located users communicate using a foreign language in the context of a wayfinding task, one providing guidance to the other. They negotiate through this virtual environment until the goal is reached. The interaction in the system is done via gestures (Kinect steering) and the physical setup of the environment consists of two separate locations, which are connected via audio and network connection to enable spoken communication. The system offers a realistic 360 degree panorama picture environment to communicate and move around in, as well as scaffolding (to the description of the system cf. Pihkala-Posti et al., 2014, Kallioniemi et al., 2014). This means that lexical and phrasal help is offered on user's request with hints in the panoramas (see Figure 1). By pointing at the hotspots (i.e. objects of interest), the user receives related supporting phrases and words both as text and as voice, produced by speech synthesis. The guide also has a map to help navigate around the city (see Figure 2). The guided users move forward by walking towards the direction in the panorama they were instructed to head for. If there are problems in the communication, they end up in a dead end and need to solve the problem in order to come further on the route. The use of

different modalities aims to strengthen the learning effect and support different types of learners, especially those who learn most effectively by doing things themselves and by moving during the learning (cf. also [Kallioniemi et al., 2013, 2014](#); [Pihkala-Posti et al., 2014](#)).

Figure 1. Interface for the guided user with an activated hotspot



Figure 2. A guide view with map



2. Research material and method

A round of evaluation studies took place in October-December 2013. 156 school pupils (from ninth graders to upper secondary students) and 36 university language center students (in total around 200 persons) took part. Both German and English versions of the application were used. The intention with piloting with different user groups was to find out in which language skill level it is meaningful and possible to use the application. The setup was as follows: two learners used the application at a time. This normally took around 15-20 minutes. The research materials from the evaluation sessions consist of audio and video recordings, observation notes, log data and feedback questionnaires (to the description of the pilots and questionnaires, cf. [Pihkala-Posti et al., 2014](#)).

After using the application, the students answered a questionnaire about the application. The survey included answers from 156 students. Over 84 % of them chose the three highest possibilities of seven on the Likert-scale regarding their satisfaction with the application. Especially interesting is that almost a half of the students (48 %) found that the use of gestures and embodied interaction improved their concentration on language use and learning. These might be the kind of learners that prefer action-oriented learning or the so called kinesthetic learning style. In the open-ended student feedback of the questionnaire, clear indications could be found with the qualitative content analysis for a successful realization of our pedagogical framework ([Pihkala-Posti et al., 2014](#)).

According to my participants' observations and the student feedback, *Berlin Kompass* system enables high freedom for the language learners on different levels to exercise their oral communication skills in the target language (see also [Pihkala-Posti et al., 2014](#)). My next step was to research this closer. In this context, interaction and conversation analytical approaches were used. I chose to make so called illustrative transcripts (*Anschauungstranskripte*, [Imo, 2013](#), pp. 152-153) of the recorded products of the communication pairs in order to be able to show differences and equalities between the interaction and language use of different pairs.

3. Discussion of the results

Remarkable variation was found in the ways and strategies that the users made use of in carrying out the task. Some concrete examples of our research data show how different level communicators can manage the task successfully and how the interaction between these communicators varies. Interestingly, different pairs used

different route and visual environment description strategies, as well as solved the dead end situations in different ways. In several cases, their problem solving reflections are made available through thinking aloud. According to my judgement, the examples give evidence for the assumption that the *Berlin Kompass* application creates an authentic-like situation and an environment that enables training of free oral communication in a new adequate way.

The embodiment realized with the Kinect-steering seems to bring added value into the situation. This means, the experience of moving according to the instructions either further along the route or ending up in a dead end strengthen the feeling of immersion and authenticity, in addition to the Berlin-panoramas. The motivation to fulfill the task kept the target language production alive regardless of the language skill level of the participants: instead of focusing on mistakes, the focus was shifted to concentrating on finding relevant ways of communication to reach the goal (cf. Pihkala-Posti et al., 2014).

4. Conclusions

In this approach, the technology is used to create a communication and an action environment as realistic as possible which creates learning situations where what is said and done matters (cf. Pihkala-Posti et al., 2014). Compared with earlier approaches, our purpose to offer a new kind of holistic, autonomous and authentic approach to learning oral communication seems to become true.

My next steps in the research project are among others to deepen the analysis of the transcriptions in order to find new interesting factors in how the users of Berlin Kompass communicate and collaborate while acting in this virtual environment. Also the video recordings and the log data that among others reveal the different strategies to use the hotspots are of interest.

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