Instrumental Technologies vs Teaching Instruments: A challenge for Computational Linguists

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As language learning theories shifted from belief in rote practice to communicative approaches, CALL--initially in consonance with the on-going practice--found itself increasingly at odds with teaching goals, and, consequently, was placed outside of the classroom. In order to increase the quality of human-computer interaction, CALL specialists turned to CL and AI. This resulted in the creation of simulations and text manipulation programs designed to expand students' exposure to a foreign language outside of the classroom, or to take over the teaching of chosen language skills lending themselves to computerization. Emphasis on cognitive processes in language learning inspired the building of small environments in which students could learn through exploration in ways similar to those proposed for mathematics by Logo advocates. Computer technology, however, did not fulfill the expectations of language teachers.

Networking and multimedia seem to offer an answer to the issue of making CALL more compliant with communicative teaching by fostering human to human communication and creative endeavor, as students engage themselves in learning driven by goal-oriented tasks. Computer mediation has stopped being synonymous with language practice in a linguistically impoverished environment. Just the reverse, contemporary network-based multimedia environments can increase the amount of comprehensible input both in and out of the classroom, supporting language acquisition from diversified input. This new language learning notion has already had impact on teaching practice.

Although emphasizing the importance of bringing language learners together, network-based environments will continue to contain thesauri and lexicons, such as GLEn-D. Housed in Stanford's Sybase, this Polish-English learners' dictionary offers lookup of word forms returning sound and graphics, and offering access to a discourse database. The currently available Macintosh front-end can easily be ported to other platforms, including the Web. Future network-based teaching/learning environments may contain personalized information filtering systems, determining contents and language levels of available materials. Software employing NLP methods may track communication between distanced learners, keep logs of errors, and suggest areas of further study. The fast development of the Internet has increased the availability of resources for self-instructed language study.

Although interpersonal connections should remain at the core of any learning environment, interactive instruments of linguistic inquiry, individualization, and assessment are important elements of such systems in the absence of teachers. In addition to investigating human-computer interactions, CALL employing CL methods will focus on the mediational use of computers in which identification, access and sharing of resources, and human-to-human contact play a significant role.

Networks connect not only learners and teachers, but also resources. SKRYBA--a module for self-adaptive practice of Polish orthography--is part of a whole system of applications. It is responsible for rule-based analysis of texts and preparation of code to be passed over and executed by a blanking application (Zippity-Zap), producing an exercise with deletions in places identified by the system as succeptible to orthographic errors. Student completions are returned to SKRYBA and analysed. GLEn-D is consulted by SKRYBA whenever specific information (e.g., part of speech) is needed to facilitate blanking or interpretation.

Developing network-based learning environments calls for collaboration. New solutions to issues surrounding language and its acquisition are more likely to emerge from exchange of ideas between disciplines, rather than from convictions entrenched within a single field.