

ABSTRACT

Over the last century, foreign language teaching has grown into a field of theoretical and empirical research, bringing the concept of a method into disrepute and effecting the transition away from ‘focus on forms’ and ‘focus on meaning’, to ‘focus on form’. The 2001 publication of the *Common European Framework of Reference for Languages: Learning, Teaching, Assessment* by the Council of Europe was an essential step forward in the evolution of the field. Considered a direct continuation of previous methodological and second language acquisition traditions, the framework’s conceptual model promoted the action-oriented vision of language use and language learning by underlining the importance of social actions during task performance.

At the same time, continuous technological advancements have exerted their profound influence on foreign language teaching practices. The scope of Computer-Assisted Language Learning, once limited to primitive room-size mainframes and ‘drill-and-kill’ courseware, has expanded significantly with the arrival of increasingly smaller yet more powerful mobile devices. The use of artificial intelligence algorithms in language learning and teaching created Intelligent Computer-Assisted Language Learning and made it possible for the once impossible dream of human-machine communication to be realised anytime and anywhere in language education.

The idea of intelligent virtual assistance easily accessible on mainstream smartphones and dedicated appliances came into greater public attention fairly recently. Voice-based artificially intelligent technologies (i.e., *Siri*, *Google Assistant*, *Alexa*, *Cortana*, and *Celia*) have been designed to support human users in everyday digital tasks and services performance. An increase in the research interest in the application of these technologies in in-class and out-of-class English as a second/foreign language instruction has taken place over the last several years. In so far as using voice assistants has been reported to have a positive influence on both linguistic and affective aspects of language learning, the research has suffered from serious limitations related to the short duration of the treatment, low number of the participants, and a narrow range of data collection tools.

The present research study was administered within the doctoral dissertation entitled *Intelligent Virtual Assistants in Self-Instructed Action-Oriented EFL Mediation Practice. A Case Study of Polish Teenage Learners*. This research was in response to the latest educational European trends underlying foreign language teaching, developments in the field of Computer-Assisted Language Learning, and the adverse effect of the COVID-19 pandemic on language

instruction in European Union member states. Given the buzzword status of the ‘action’, ‘mediation’, and ‘lifelong learning’ concepts in language education and the ubiquity of increasingly sophisticated portable devices, self-instructed Task-Based Language Learning was combined with Intelligent Mobile-Assisted Language Learning within the treatment to verify the effects of this experimental intervention on the participants’ ability to mediate a text.

The dissertation was divided into five main chapters, each of which played an equally important role in the presentation of the theory and methodology underlying the current research project. A list of appendices was also attached to demonstrate sample materials developed and used by the present author.

Chapter One provided an overview of the trends in European policies and practices for developing foreign language learners’ communicative competence. It began with the presentation of the communicative competence construct and its prominence in the field of foreign language teaching. Next, it discussed the action-oriented approach, the conceptual model developed within the Council of Europe’s seminal documents. Lastly, it defined mediation in the context of language education (and beyond) and explored practical aspects of the concept in instructed settings.

Chapter Two addressed the problem of foreign language learning, teaching, and assessment in post-war Poland. First, it discussed the selected education reforms implemented by the Polish government and examined their impact on the state of language instruction in the country. Later, it looked at English as a foreign language secondary school examinations in both European and Polish secondary school contexts. Finally, it listed the challenges related to the development of communicative competence by foreign language learners in Poland.

Chapter Three gave background to the application of intelligent virtual assistants in language education. It stressed the increasing mobility of computer technologies and assessed implications involved in their application to language education. Also, it presented an overview of technological developments that led to the emergence of Intelligent Mobile-Assisted Language Learning. Next, it elaborated upon the novel concept ‘Task-Oriented Intelligent Mobile-Assisted Language Learning’, which was developed for the purpose of the current discussion. Finally, it identified the research trends and sources of limitations of the selected studies on the use of intelligent virtual assistants in in-class and autonomous English as a second/foreign language learning.

Chapter Four shifted the focus onto the methodology underlying the current research project. It began with the presentation of the research problem, aims, questions, and hypotheses. Next, it described a mixed-methods approach to the research design adopted in the study. Once

basic information about the sample selected for the purpose of the current investigation was provided, the six-stage research procedure consisting of the needs analysis, target task selection, instructional treatment design, pilot testing, study proper, and programme evaluation was presented. The final subchapter was devoted to the discussion of ethical considerations in the context of the current research procedure.

Chapter Five presented the results of the quantitative and qualitative analyses of the data obtained from the current quasi-experiment and programme evaluation. Next, it discussed the findings in the context of the three research questions and the relevant literature. Additionally, the chapter listed pedagogical implications for foreign language learning (to mediate) and several conclusions based on the data presented in the preceding subchapters. Finally, it identified and discussed limitations to the study and put forward recommendations for potential future research.

A six-stage Task-Based Language Learning programme was designed to fill the gap in Computer-Assisted Language Learning research, that is to examine the effects of Task-Oriented Intelligent Mobile-Assisted Language Learning on intralinguistic mediation of oral and written texts by Polish teenage learners of English as a foreign language. It started with the multimethodological research on participants' needs (i.e., needs analysis, Stage One), whose results laid the basis for the selection of the target tasks (Stage Two) and the development of the intervention (Stage Three). Next, the instruments of data collection, analysis methods, and selected tasks were piloted within the pilot-testing stage one month before the study proper began (Stage Four). Once the necessary changes had been introduced to the main study, the quasi-experiment with the factor rotation technique took place (Stage Five) followed by the evaluation of the technology-mediated task-based programme (Stage Six).

Six intact groups of Polish teenage EFL secondary school students were selected to participate in the study based on non-probability sampling. In total, 61 graduates of eight-year primary schools were assigned to Group A and Group B and took part in the quasi-experiment and programme evaluation. To increase the validity of the study, factor rotation was implemented, which means that both groups took on the status of the experimental group in either Phase One or Phase Two of the study.

Five data collection instruments (i.e., text mediation tests, learner logs, learner usage data, post-study questionnaires, and semi-structured interviews) were used in the current research study. A mixed-methods approach to research design was adopted to conduct the product and process evaluation of the programme. The quasi-experiment was undertaken to answer the first research question, that is to examine the effects of the treatment on the Polish

EFL students' intralinguistic text mediation both at within- and between-group levels. The results of the experimental groups were compared with those from the pre-tests as well as with those of the control students who had followed a conventional task-based programme. To answer the second and third central research questions, each of which investigated the participants' interaction with *Alexa* and their perceptions towards intelligent virtual assistance respectively, quantitative and qualitative data were collected within the descriptive research. Quantitative or qualitative analyses of the data collected in the quasi-experiment and programme evaluation, and in some of the cases, the combination of the two, were conducted in view of the requirements of the specific research questions.

The findings demonstrated that the treatment (i.e., self-instructed task-based learning to mediate texts with the help of the *Alexa* intelligent virtual assistant) did have a positive effect on participants' text mediation improvement both at between- and within-group levels. Generally, the experimental groups performed significantly better on text mediation activities having received the experimental intervention compared to their performance before the treatment and to the performance of the control groups.

Thanks to the combination of Intelligent Mobile-Assisted Language Learning and task-based self-instruction, the participants could communicate with *Alexa* to perform real-life tasks on their own in their private home surroundings. The human-machine communication process resembled that of authentic human-human communication because the learners had to negotiate meanings with the technology, as reflected in their frequent use of the 'rephrase' and 'repeat' strategies, to obtain answers from the voice assistant and deal with communication breakdowns.

Despite several learner-related (i.e., pauses, segmental errors in pronunciation) and technology-related (i.e., unreliability, connectivity problems) causes for human-machine communication breakdowns reported in the study, the participants positively assessed their interaction with *Alexa* and expressed positive opinions on the use of intelligent virtual assistance in their learning to mediate texts. They generally evaluated the technology as useable, effective, and satisfactory. As far as its benefits are concerned, the participants underlined their opportunity to practise speaking English, enhance pronunciation, broaden vocabulary knowledge, increase confidence in using the language, and gain easy access to multimodal information. Unreliability of the technology, irrelevance of its feedback, problems with understanding and connectivity, increased time burden, downloading issues, and artificiality of communication were the challenges listed by the participants.

Despite strengths of the research procedure, such as the use of factor rotation and methodological triangulation, the study suffered from some limitations. Most importantly, the

findings were far from generalisable because the sample was not selected randomly, thus, it was not representative of the entire population of Polish EFL secondary school students. Furthermore, the current investigation displayed selection and sampling bias because particular groups of Polish EFL learners were more likely to be selected from the population than others. In addition, the internal validity of the findings to the second research question could not be confirmed because a complete picture of the human-machine communication process based on the analysis of two types of data (i.e., learner logs, usage data) could not be established.

Even though several weaknesses related to the design and application of the study could be identified, it must be emphasised that the treatment implemented in the current investigation was well worth replicating. First and foremost, it offered an attractive alternative to traditional task-based self-instruction because it provided a ubiquitous learning environment, which in addition to improving participants' intralinguistic text mediation, promoted their target language reception and production as well as pronunciation and vocabulary practice. Moreover, it not only involved the students in simultaneous language reception, production, interaction, and mediation, but also supported their comprehension of *Alexa*'s responses through the presentation of multimodal input by the voice assistant. Equally importantly, technology-mediated Task-Based Language Learning created authentic contexts for everyday target language use, promoted experiential learning, and offered individualised feedback. Last but not least, it involved learners in communicative and interactive English as a foreign language use which could take place in students' low-stake home surroundings.

In view of the above, it is justified to argue that important implications of the use of *Alexa* (and other intelligent virtual assistants) in self-instructed Task-Based Language Learning arose from the findings not only for interested researchers, but also for different stakeholders in the field of foreign language teaching. First of all, the study opened up promising avenues for future research within Computer-Assisted Language Learning because a positive relationship between the implementation of intelligent virtual assistance in self-instructed Task-based Language Learning and participants' improvement in the ability to mediate oral and written texts was discovered. Second of all, language educators who intend to develop their students' communicative competence in an integrative way as well as lower their learners' language anxiety and promote their independence in learning English as a foreign language should find it worthwhile to consider assigning homework similar to the experimental intervention.

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