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Application of chatbots for enhancing communication skills of IT specialists

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Abstract. The paper deals with the urgent issue of application of chatbots in training IT specialists for enhancing their communication skills. The background of application of chatbots in learning from using ordinary chatbots which converse in the language studied to development and implementation of special chatbots created for studying has been described. Main features, advantages and disadvantages of certain chatbots have been analysed. Taking into account the results of the analysis the teaching-oriented chatbot BEbot for developing communication skills of IT specialists has been introduced, some specifics and challenges of its creation, its peculiarities and contents have been presented. It is emphasized that along with developing business-like communication skills, language-in-use skills, cultural distinction knowledge, command of business writing style and delivering presentations in a businesslike manner have been enhanced through communication with BEbot. The results of the surveys of students on their experience in the chatbot use and their particular experience with BEbot have been highlighted.

1. Introduction

In recent years with the development of information and communication technologies chatbots have become omnipresent in numerous spheres of people's lives as service providers, online consultants, troubleshooting service providers, digital reference books, virtual teachers etc. and their number is constantly increasing.

In scientific sources, there are numerous terms for chatbots (chatbot-like systems): chatbot, conversational agent, conversational tutor, human-computer dialogue system, machine conversation system, conversational dialogue system, virtual agent, intelligent agent, dialogue system, chatterbot etc. The definitions for such kinds of systems are also different, becoming more complex and sophisticated with the development of information and communication technologies. Brennan considers a chatbot as "an artificial construct that is designed to converse with human beings using natural language as input and output" [1]. Jia at al. give a very simple definition of the term: it is "a program that can pretend to 'chat' with a human user in a certain natural language" [2]. Pérez et al. define a chatbot as "a tool that combines artificial intelligence and natural language processing or other technology, which enables it to interact to a certain level of conversation with a human interlocutor through text or voice" [3].

Chatbots have already been widely applied for education purposes as they have certain advantages. They can serve as educational agents decreasing the workload of human teachers or supporting the main education process [3].

Pérez et al. in their systematic review of the literature on chatbots in education classified chatbots into two categories: service-oriented chatbots and teaching-oriented chatbots. Service-oriented chatbots may include different services both for students and for university departments: student queries, procedures for admission and registration processes, administrative tasks, answering FAQs about universities, their curricula, student's life and others. Teaching-oriented chatbots as their name says are intended to "generate knowledge for specific students, usually on a specific topic". These chatbots as researchers state can encourage learning, promote studying, improve their skills etc. Teaching-oriented chatbots are subdivided into formal and nonformal ones according to their application in education [3].

2. Application of chatbots for development of communication skills

Application of chatbots for development of communication skills has had a rich background: from usage of ordinary chatbots which converse in the language studied to development and implementation of special chatbots created for studying languages. Undoubtedly, as the main purpose of studying a language is communication, chatbots can be efficient tools for practicing dialogues and some kind of immersion into the language environment.

According to the purpose of learning, language learning chatbots differ in some way from ordinary chatbots "in their goals, their approach, and their users' characteristics, thereby effectively creating a new interaction paradigm" as Divekar et al. suggest. The researchers state that language bots have to be intended for users who do not know "the language of interaction, and the purpose of the conversation is language education through task completion rather than task completion itself" [4]. Huang et al. present main common features of language learning chatbots: their availability for users 24/7; provision of extra information such as expressions, questions and vocabulary; assistance in repetitive activities continuously [5].

Huang et al. identify five ways to use chatbots for language learning: as interlocutors (language learning practice, learning skills activity, croup discussion coordination), as simulations (role-playing, learning scenario representations), as helplines (responding to requests for assistance), for transmission (delivering well-targeted interventions) and for recommendation (providing level-appropriate contents) [5].

The ideas of possible application of chatbots for language learning become to appear in the early 2000s. In 2006 Fryer et al. suggested that chatbots could be used to practise a foreign language, as they had certain benefits such as their price and convenience of their usage. They tried to implement ALICE and Jabberwacky bots which were not initially intended for foreign language learning into the educational process. They asked their students to use these bots and according to the answers presented the following advantages of chatbots: most students felt more relaxed while talking to a bot; bots could repeat the information continuously; students could

practise in reading and listening; bots were interesting for students because of their novelty, students were able use numerous language structures and vocabulary they could not use in the classroom (slang and taboo words); chatbots could "provide quick and effective feedback for students' spelling and grammar" [6].

Similar attempts to use ordinary chatbots for language learning were made by Shawar et al. [7] who developed algorithms for adapting or retraining a chatbot to meet student needs. They created one ALICE version for learning spoken Afrikaans and a bilingual version as an Afrikaans/English chatbot. The researchers concluded that "adaptive chatbots can foster language learner autonomy, giving students the opportunity for independent active learning of conversation skills".

Seneff et al. presented the results of implementation of multilingual dialogue systems developed for learning the Chinese Mandarin language as the foreign language for native English and Spanish teachers [8, 9]. Students could communicate with the system by having a goal-directed dialogue in writing or using a microphone on topics within a travel domain.

In 2009 the group of researchers and practitioners developed CSIEC (Computer Simulation in Educational Communication), a human-computer dialogue system for English learning. The most specific features of the system were a multimodal user interface and selectable chatting patterns. It meant users could chat with the chatbot opting for the text mode or talking into a microphone. The robot that had an avatar provided written messages or spoke with users with a synthesised voice. The robot had a built-in function of checking grammar and spelling upon request. The chat topics for conversation could be either free (unlimited) for intermediate to advanced users or prescribed (limited) for elementary level students. The most progressive features of the system were: options to choose the interlocutor, depending on the preferable mode of communication, the possibility to have a dialogue on any topic depending on the information about the user, guided chatting in a given scenario for drill or examination, the function of presenting two robots chatting on a given topic [2].

Recently, numerous studies of the application of chatbots for foreign language learning have been carried out. The main aspects of contemporary research on chatbots in foreign language teaching are technological and pedagogical ones. The researchers study existing chatbots to examine their application in language learning and suggest prospects for further development or develop their own chatbots to complement foreign language courses at the universities or as additional conversational agents.

Pham et al. [10] have developed the English Practice chatbot for mobile devices for learning vocabulary and new lessons. The English lessons have multiple choice questions for checking comprehension. Na-young et al. [11] have studied several chatbots for foreign language learning and concluded that they have positive influence on student communication skills as they can increase the quantity of student-chatbot interactions, foster their motivation, and raise their interest in learning. Ruan et al. [12] have developed BookBuddy, "a scalable virtual reading companion that can turn any reading material into an interactive conversation-based English lesson". The chatbot supports two modes of conversation: general conversation (popular English expressions) and book-related conversation (questions and answers related to the book).

Haristiani [13] has carried out the research on available chatbots for foreign language learning, made their categorization (flow, artificial intelligence and hybrid chatbots), studied their advantages and disadvantages. The researcher has developed Gengobot which is intended to provide a Japanese grammar learning medium for beginner level of Japanese language learners. The chatbot also has grammar contents in English and Indonesian, and is integrated with LINE, the most popular social media application in Asia. The developed chatbot is a flow chatbot, which presents Japanese grammar and provides exercises for practicing and tests. As the author states, the chatbot functionality is limited and is to be extended in the future.

Petrović et al. [14] have studied four popular chatbots for foreign language learning regarding

two aspects: the speaker aspects (the skill level, language diversity, domain, and interaction modality) and technology aspects (the dimensions include dialog type, knowledge base, and availability). The authors state that in December 2020 there were only four chatbots "that support real-time dialogue with users, i.e. provide immediate answers to prompts, and ask relevant follow-up questions, very much like in any natural and spontaneous conversation with a real person". On the basis of the research results the authors offer prospective direction for the chatbot technology development in the context of education and research: a new methodology for technology-supported language learning, a technology for personalized language learning and a novel, online conversational service for learning languages at scale.

Fryer et al. [15] have examined two chatbots for foreign language learning (Cleverbot and Mondly) and suggested some ideas on how to structure chatbots to make them more useful for foreign language learners. The researches have discussed the necessity of supporting generative e-learning, the urgency of development of multiple chatbots which provide different answers and ask different questions; the need of creating chatbots for specific audiences; the necessity of providing immersive experience for learners.

Kim et al. [16] have presented the design principles and architecture of a second language learning voice chatbot. The South Korean researchers have developed a chatbot Ellie with three chat modes: 1) General Chat which is aimed at human-chatbot conversation about personal information, interests and thoughts; 2) Task Chat which is intended to problem-solving activities using a foreign language; 3) Skills mode which allows users to "practice their pronunciation and vocabulary or play game-like language activities for speech enhancement". The developers state that the chatbot requires some improvements, but can "serve as a useful reference for future foreign language chatbot projects".

3. Analysis of chatbots for language learning

In order to determine the user-friendliness and efficient technical abilities necessary for learners before designing our own chatbot, we have studied several online chatbot builders and the provided chatbots. The profound chatbots introduced by authoritative linguist and educator teams in their language learning applications have been also used in order to specify the communication manner, attractiveness and prepossessing for young adults. Thus, the chatbot features which have been analysed are also advantageous for prospective Business English learners. These beneficial parameters are the abundant content (vocabulary, grammar, culture sections), the diversity of the content formats (texts, visuals, speech patterns, audio, web links for outsource additional information), communication manner (the high level of the AI integration for adequate mock chat provision), user-friendliness (usage simplicity, appropriate interface, reminder system, request for user feedback), consolidation section (review tasks, tests, quizzes). The mentioned above features are not necessarily present in every application to the full extent, but their presence is an additional constituent for the application attractiveness for English learners.

The comparative analysis of several smartphone applications has been very helpful for selection of both the linguistic aspects and forming their coherence and for making the chatbot-to-be character outline. The following English learning applications have been chosen for the analysis (table 1): Duolingo, Mondly, Virtual English tutor, Memrise, EnglishCareerBot.

Duolingo is one of the most famous language learning applications. More than 150 mln people have chosen the application whose slogan is "The free, fun, and effective way to learn a language" [17]. The smartphone learning application is really attractive for teenagers because the gamification principle is the basis of all the activities. In 2006, Duolingo launched a chatbot feature mimicking texting with a real person in French, Spanish and German. In the course of time, three characters were developed to diversify the communication – Chef Robert, Renee the Driver and Officer Ada who gave dissimilar responses in order to give the learners the choice

Table 1. Chatbot applications for learning English.

Application	Duolingo	Mondly	Virtual English tutor	Memrise	English Career Bot
Aspect	General English	General English	General English	General English	Business English
Application version	mobile	web and mobile	mobile	web and mobile	mobile
Voice-enabled chatbot	+	+	+	+	−
Manifold set of speech patterns	+	+	−	+	−

of the communication partner or partners. The texting scaffolding were the hover hints for separate words and the 'help my reply' button, demonstrating several suggested answers for real-life conversations to the learners. The chatbot feature was accessible only in the Duolingo Iphone app for learners who have accomplished a specified number of lessons. After a couple of years the chatbot option was pulled from the app and unfortunately it is no longer available. However, Duolingo alternative is the Stories lab. The stories are mini-conversations between two of ten Duolingo characters and the learner should follow along their dialogue and answer questions or choose the most suitable option in accordance with the conversation logic.

Mondly by Pearson [18] counts more than 100 million people learning English. This application invites to learn 41 languages among which there are rare or so-called bespoke languages as well as the set of varieties of a language (like British or American English). There are four Mondly apps – Mondly, Mondly Kids, Mondly AR (AR stands for augmented reality) and Mondly VR (VR stands for virtual reality). In our previous research we studied the Mondly VR mobile application in the English course for the undergraduates majoring in Computer Science [19, 20]. Both the lecturers and the undergraduates have considered it to be the most efficient compared to five other VR applications, some of which offer chatbot experience, too. The Mondly apps suggest short lessons, medium gamification level and unobtrusive encouraging technique and set of reminders to keep a learner progress and advance with the lessons. The chatbots maintain speaking activities and improve pronunciation though they differ in each Mondly application. In Mondly, the chatbot tool is aimed at simulation of an audio based real conversation with a native speaker. The learner listens to a native speaker, records their own voice in response. The advantage over Mondly rivals is that learners can replay the recording and compare it to the native speaker pronunciation and understand what needs to be practiced and improved. In Mondly AR and Mondly VR, the voice-enabled chatbots are aimed at immersion into the learning environment. For using Mondly AR, a learner uses an AR application to scan their own room or office and augmented reality technology generates a CGI (computer-generated imagery) teacher and animations. For using Mondly VR users need an Oculus headset through which the application immerses them into simulated virtual environments (like a shop or a train) in a variety of situations which require them to speak to virtual locals (shop assistants, waiters, fellow travellers). Interacting with animations complements the standard lessons from Mondly applications with all its useful functions (like hover or hint translations, sets of synonymous phrases for a response, repeated listening to chatbot phrases and own recorded submitted responses). All the chatbots speak in a clear human voice and the multiple dialogue versions are elaborate and effective.

The application from Paphus Solutions Inc. called Virtual English Tutor was released in May 2022 and features a Bot Libre chatbot. The Bot Libre Platform is a free open source platform for creating chatbots and using artificial intelligence for the web, mobile, social media, gaming, and the Metaverse [21] – it is currently integrated with 12 social and chat platforms. The Bot Libre community is growing which results in more than 100,000 bots created by 500,000 registered users for customer service, sales, advertising, technical support, or just for fun. Virtual English Tutor for Android is so far not very demanded, it has more than 1,000 downloads from Google Play. The language learning application is aimed at practicing conversational English. The lessons are divided into three categories (greetings, job interviews, dating) [22]. Within each lesson, the learner communicates with a chatbot and can choose between speaking and typing. The advantages of the application are very simple navigation and quick response from the chatbot. Nevertheless, the range of response phrases is quite limited, the repetitiveness of the questions and duplication of phrases to enhance the dialogue can be quite annoying. Each lesson includes practicing only five to seven phrases, the chatbot insists on communicating in complete phrases, not in curt replies. The speech recognition option functions only when the demanded word or phrase is pronounced slowly, loudly and with clear pauses between words, so mimicking native-speaker pronunciation and intonation does not result so far. The company is going to create more lessons with the active engagement of English teachers so the app could facilitate curriculum-based content.

A Ukrainian language learning chatbot has also been tested. The English Career Bot designed by the IT-course platform GoIt [23] provides learners with strategies and materials for preparation for a job interview in the IT sphere. A free of charge "7-day marathon" is introduced in a Telegram channel. A subscriber is encouraged to study text and audio materials to accomplish seven successive units within seven days. There is a true-false test and a speaking task. The learner has to record and upload their detailed answer for a typical interview question. As appropriate, the learner can adapt the introduced text (and its audio version), change their major, desired position, the company name etc. and after practicing performing the response, record a message (ten seconds or longer). The advantage of English Career Bot is its focus on one purpose and its thought-out example-like resources. The identical structure for all seven units can be perceived positively but in the chatbot extended version (twenty units) it can seem tedious. Beneficial is a reminder system for learners who are likely to miss the every-day deadline or not to accomplish the test within a specified time interval. It is important, because there is no prior notification about expelling the learners who have failed to meet the deadlines. The disadvantage is the excessive amount of the Ukrainian language in the chatbot communication. Nevertheless, English Career Bot is an effective learning tool for IT undergraduates, graduates and job seekers who look for employment with reputed international companies.

Memrise is a language learning application in two versions (a web and a mobile application). The Memrise creators oppose learning experience with Memrise to convenient learning from textbooks. They state that using Memrise is an enjoyable and effective way to memorize characters, vocabulary, and phrases. The basis of such confidence is the course diversity. There are 13 languages to choose from subscribers. The learners may freely navigate between courses and levels, moreover, alongside official Memrise courses there are hundreds of user-created courses. The official courses outmatch the outsource courses because they have assurance of their quality and accuracy, elaborate content, high quality audio and video. They also have an AI chatbot, MemBot [24], whose ultimate goal is to make learners feel confident when communicating in another language with others in the real world. Membot is powered by artificial intelligence and produces human-like text. Chatting to MemBot is really absorbing. The chatbot is asking a first question, the next question bases on the previous learner's response and encourages the learner to share additional information and details. The experience is welcoming, because the follow-up phrases demonstrate MemBot's full attention and friendly

support. The dialogue on a specific theme can include 5 to 10 lines from each counterpart. Then the learner can start a new conversation within the same theme but with different phrases because Membot's vocabulary is quite sophisticated and elaborate. The creators disclaim any bias and discrimination in MemBot communication and promise to remove any phrases claimed as inappropriate by the chatbot users. The Memrise team emphasize that the chatbot is being improved as the technology is pretty new. Actually, Memrise has had chatbots and grammar bots previously, but they were removed in 2020 both from the application and on the Memrise website. The chatbot features have not proven to be useful to most Memrise learners and have taken up resources for the creators to keep supporting them properly. Instead, after two years of designing, Memrise introduces its rewarding on-demand AI language language partner, with a lifelike language.

4. Development of the chatbot for development of communication skills

The teachers of the department of foreign languages have developed a Business English course for IT specialists which provides communication of undergraduates and graduates with a chatbot. The chatbot named BEbot (Business English bot) enhances both business communication skills and command of English. The learners can only type to provide answers and dialogue lines because there is no speech recognition function. The developed chatbot is of a hybrid type, as it can understand and communicate with users, but follows the pattern determined by the developer.

While designing, building and introducing BEbot, the teachers had the following challenges:

1) to design a learning means which assists the Business English textbook but does not copy it. In order to extend learning material a supplementary exercises coursebook has been developed in accordance with the planned chatbot content.

2) to find the balance between the instructional and entertaining material and to keep learners' focus in the first category. The share of the English entertaining material with lower educational value for the Business English course does not exceed 15 percent and includes mostly videos and real life content like funny facts or visuals.

3) to choose various additional multimedia online resources with free access in order to enhance reading and listening skills. Therefore, links for free online audio and video resources from prominent publishers (Pearson, Express publishing, Longman) have been retrieved in order to enhance students' listening skills.

4) to build a chatbot with a very manifold structure and to make it look comprehensible for learners. The content has been carefully analysed and organized in 12 themes with 3 aspects each.

5) to choose an appropriate testing means for different language skills. As reading, writing, and listening can be assessed through different chatbot technical abilities, different types of tests (matching, gap filling, and extended answers) have been developed.

6) to create an impressive character, intriguing and unobtrusive at the same time. BEbot has been developed taking into consideration character traits of online influencers and popular fictional characters presented by the film industry within the last 2 years.

7) to automate communication processes according to predetermined learning scenarios. In order to make BEbot a more attractive communication counterpart for young adults, a nontrivial and extensive set of phrases which includes youth slang and informal communication patterns has been provided.

8) to let students unbiasedly understand the purpose of the chatbot. BEbot was introduced to students in the first week of the term. After one week of using it in combination with the Business English coursebook, students had to make the decision on their own, if they are going to use BEbot and for what purpose.

9) to incite student's regular turn to BEbot. Since the group decided to use BEbot, the supplementary exercises and additional learning resources represented in the chatbot became relevant for the learners.

10) to encourage students to prolong active communication with BEbot after the Business English course is over. BEbot has been promoted not just as a communication partner for Business English learners, it has been specifically highlighted and confirmed within the course that BEbot provides lots of links for efficient and sought-after resources.

The Business English course includes several topics aimed at forming skills in applying for a job, having a job interview, establishing business relations and maintaining contact with employers, colleagues, partners and clients, writing and responding to business letters, communicating face-to-face, via telephone and online (figure 1). The course aspects include also forming students' awareness of equality, diversity and inclusion policy and enhancing intercultural communication. Each section mentioned above has focus on a coherent English language aspect (vocabulary and grammar). Several themes of the Business English course are presented in table 2.

For instance, the "Job interview" section has a vocabulary/glossary subsection, grammar subsection (a verb+preposition structure, double object verb formations). The vocabulary category in the chat menu links this subsection to the glossary where distinct words are explained and used in a sample sentence. There are also collocations and phrases important for conducting and having a job interview. Some speech patterns are combined in short dialogues. The grammar category suggests learners to refresh their skills in choosing between Past Simple tense and Present Perfect, as well as between Present Perfect and Present Perfect Continuous tense for representing the past events and current activities and achievements in their life and work. The usage rules of type I conditionals are supposed to be revised in order to equip learners with speech means for talking about possibilities and future results of real actions. For discussing career prospects the importance of grammar points like Future Simple and the going to + Infinitive construction should be focused on. The verb plus preposition and double object verb formations should also be reviewed as their usage is a challenging grammar theme and voluminous linguistic material for memorizing.

Another important subsection helps students refresh their knowledge and acquire new information on behaviour patterns leading to success in the interview, recommendations on appearance and dress code, and intercultural aspects of applying for a job in foreign companies (like Japanese, American, German, French).

The "Job interview" section is the fourth one in a sequence of themes in the Business English syllabus. By the time, when users enter communication with BEbot within the job interview discussion they have familiarized with the techniques of chatting with this character. Within the first theme "Acquaintance" BEbot asks standardized questions about name, affiliation, study, hobbies, and gives bland short answers like "Well done!", "Good for you!", "Please, tell me more". Gradually, BEbot becomes more strict and ironical, the chatbot extended answers are supposed to puzzle and to intrigue the communication counterparts. The phrase samples for some chatbot reactions are presented in table 3.

The measure of BEbot's irony depends on the failure threshold – the more wrong answers users give the more biting lines they get from BEbot. BEbot is intended to appear impatient and self-sure, appreciating quick thinking and high level of preparedness. For correct answers and students' excellence BEbot shares links to amusing or captivating online content. For tardiness and poor performance BEbot shares links to instructional learning material on the specific theme which is going to be tested within the next chat session with BEbot. Whatever the case, both BEbot's appraisal and criticism lead to extension of introduced English language content. Students also like arguing with BEbot, because the set of phrases for leading discussions includes

Figure 1. Screenshot of the BEbot menu and submenus.

cited phrases from several famous classic films and currently popular English and American series.

There are also patterns for specifying counterparts' query, apologizing for being sarcastic and for misunderstanding, patterns encouraging new and profound chats, a small talk set of phrases. All these patterns are a blend from young adult slang and work style phrases, since the working environment of computer specialists is mostly informal. Chatting to BEbot, students learn the patterns and pieces of phrases useful for their communication in English with peers in their office and clients.

In order to define if chatbot inclusion in the Business English course mentioned above

Table 2. Themes of the Business English course.

Theme	Vocabulary/Samples	Grammar	Culture fit aspect
Acquaintance	Introducing oneself and the enterprise one represents. 3 business card samples.	Past Simple; Present Perfect; Polite questions; Question tags	Peculiarities of introducing people in European, South American and Asian countries; small talk.
English for Engineers	Command of language; language skills; ESP. 2 ESP and 2 Business English certificate samples.	Talking about purpose; Future Simple; going to + Infinitive; Present continuous for describing future plans	English as a means of professional communication worldwide
Résumé	Biography; study; career; acronyms. 8 resume samples.	Past Simple; Present Perfect; Passive Voice.	Differences in résumé layouts for specific professional fields; various working environments.
Job Interview	Personal achievements; professional skills; ambitions; 2 interview questionnaire samples; 3 brainteaser samples.	Past Simple; Present Perfect; Present Perfect Continuous; Conditionals; Future Simple; going to + Infinitive; the verb+preposition construction; double object verb formations	Peculiarities of interviewing employees in different professional fields; advantageous behaviour; dress code.

enhanced the students' learning outcomes and if it is the case to what extent, the tests of experiment and control group have been carried out. The group majoring in computer science (the group counts 23 students, the average academic performance is 82 percent) was given the task to use their textbooks, the distant Business English learning course and to spend at least 1 hour a week learning with a chatbot. The group majoring in engineering (21 students, the average academic performance of the group is 85 percent) used only the Business English textbook and the distant learning course. The exit tests of the experimental group have shown that the experimental group results have been 17 percent higher than the results of the control group. Additionally, the computer science students have had a survey about their experience in learning with the chatbot assistance. 98 percent of students have at least once used a chatbot. 79 percent of all responders have previously used English language chatbot applications (figure 2). 82 percent of the group have estimated BEbot as an advanced and efficient chatbot. The responders have distinguished BEbot's personality and maturity, its comprehensible menu and structure following and reflecting the Business English syllabus, and emphasized the chatbot's

**Table 3.** Phrase samples for some chatbot reactions.

Appraisal	Scolding	Pressing for an answer	Speaking about BE-bot
Will wonders never cease! You're a peach! You are quick-witted! Straight A! Quite so! I would give anything to hug you! Precisely! High five! That's just it! Good thinking!	You're kidding, aren't you? My heart goes out to the teachers who taught you English! You failed to prepare yourself for such a trying talk! You need to rethink your attitude toward Business English course! Next time, think for a moment before answering, please.	Who taught you how to type? You are temporizing with me! Am I going too fast? What takes you so long? You're making me feel useless now!	I know I am ohmygodable! Yes, I am cheeky! Sorry, I am up to my neck in work. You will never tire of chatting/learning with me. Being perfect all the time is not taught at school.
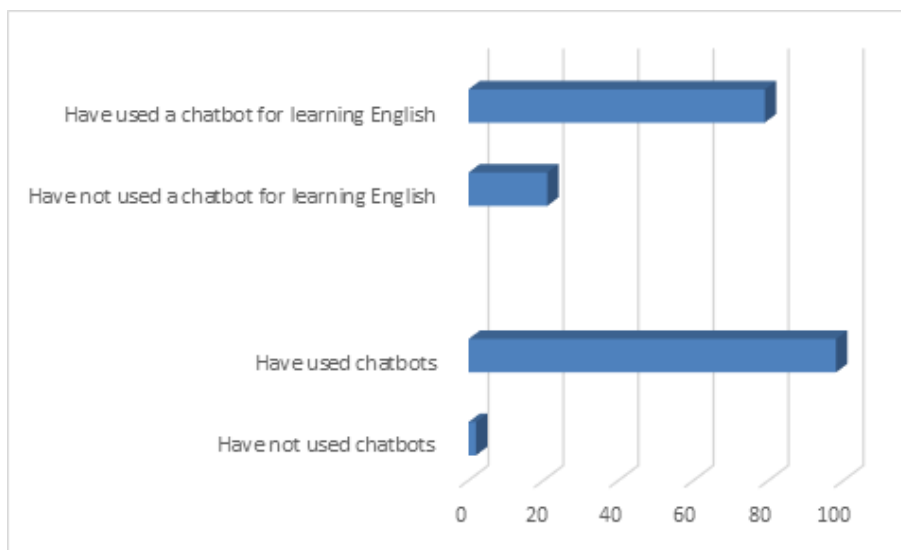
Figure 2. The experience of undergraduates in using chatbots.

user-friendly interface. The user statistics demonstrate that 24 percent of students regularly use BEbot in order to revise grammar and to chat with the ironic partner (figure 3).

BEbot has been demanded by the undergraduates who appreciate the possibility to drill conversational patterns in Business English. The most actively used are not the themes available on other platforms or on the Internet (like Job interview or Acquaintance) but less common aspects which need both language skills and cultural awareness (Communicating across cultures) or, for instance, command of business writing style or delivering presentations in a businesslike
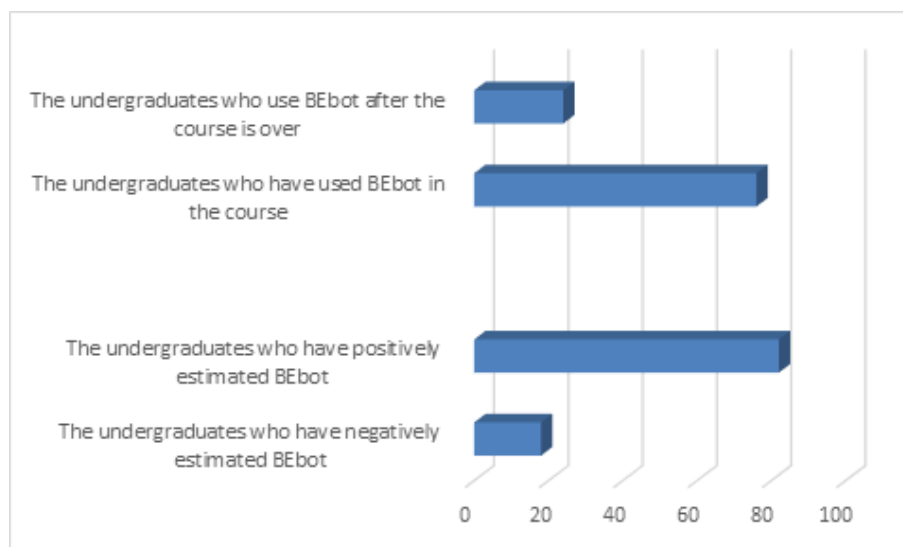
Figure 3. The BEbot user experience and estimation.

manner.

We can suggest that the factors for successful language chatbot implementation are:

- the transparent learning scheme and material structure;
- the rich diversity of additional materials and links;
- the up-to-dateness of the vocabulary revised and learned and of the provided document samples;
- the presence of the chatbot personality;
- the accordance of the chatbot communication style with the approximate age of potential learners and appropriate maturity level.

5. Conclusions

The chatbots are a very efficient learning tool, which have proved demanded by users whose goal is to improve their conversational skills in their second language. The existing chatbot applications have been highly estimated by the researchers, the highlighted beneficial features have been focused on when the Business English chatbot has been created. Some applications and platforms have removed their chatbots due to the enormous amount of resources taken up for the creators to keep supporting AI chatbots. Nevertheless, the actual source analysis confirms that chatbot efficiency is undoubted and language teachers' interest in their application has been constantly increasing. The previous experience of the undergraduates in using chatbots for learning has been taken into consideration, too.

The designed in Telegram and introduced within the Business English course chatbot BEbot has been tested and afterwards actively used by the undergraduates. Along with developing business-like communication skills, language-in-use skills, cultural distinction knowledge, command of business writing style and delivering presentations in a businesslike manner are inculcated in learners through communication with BEbot. The users have estimated it as a comprehensible, user-friendly and efficient tool not only for practicing the prescribed syllabus tasks along with the coursebook activities but also for drilling and reviewing specific vocabulary and grammar aspects after the Business English course completion.

Adding voice input and voice recognition function is being considered. Another design prospect is creating a Business English chatbot based on the use-proved content and aspect

set of BEbot using Python which allows to broaden user friendliness, and to refine chatbot's conversational manner.

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