

Optimizing the Methodological and Communicative Aspect of Learning English as a Foreign Language through ICT

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Abstract. *The Internet has steadily been gaining importance as a vital medium of communication in acquiring knowledge. As such, it has occurred as the major initiating factor in changes in increasingly ICT (information and communication technology)-supported instruction. If such Internet-based learning is to be optimized, proficiency in foreign languages – primarily English – is required, for academic and professional purposes equally. Conversely, the prevalence of the Internet facilitates foreign language acquisition, often by integrating language skills. In the research factors of quality of interpersonal communication in both face-to-face communication and CMC (computer-mediated communication) were analyzed in terms of university students' perception of relevance of acquiring language skills in learning English as a foreign language.*

Keywords: foreign language acquisition, language skills, communication apprehension, Internet-based learning

1. Introduction

Upon entering the 21st century the world seems to have also embarked upon a radically different stage – as well as rate – of development, both technologically and linguistically speaking. In his latest provocative report on the future of English in the wake of recent dramatic changes in demographic and economic trends, David Graddol [16] identifies information technology as another major factor determining this profoundly different reality. This equally applies to the global state of affairs and more specialized domains, such as education, where the very purpose of education has been redefined. In the same report [16] it is stated that the ‘the role of education in schools is now seen as to provide the generic skills needed to acquire new knowledge and specialist skills in the future’. The list of basic skills has thus come to include not only literacy and numeracy, but also English – no longer necessarily viewed as a foreign language, but rather as a tool for acquiring new knowledge – and, not surprisingly, information technology.

2. Current ICT trends in education in Croatia

Over the last few years, and perhaps even decades, we have witnessed a major breakthrough in ICT, which has become a *conditio sine qua non* in a vast

number of areas of human endeavour, including education. ICT has been implemented in all the different types of education systems, regardless of how formal or informal they are. One of the indisputable benefits of ICT is its ability to foster the modernization and redefinition of the instruction process in general, as well as facilitate the introduction of innovative elements into the current teaching practice. Bringing in ICT into education systems has resulted in a new type of learning referred to as distance learning or e-learning. Within e-learning, several subtypes can be distinguished, depending on the role and function of ICT in each of those types, ranging from purely electronic distance learning, devoid of any conventional face-to-face instruction, to hybrid types of instruction, in which conventional instruction and distance learning are blended with a view to taking full advantage of specific features inherent in both types of instruction involved. However, among requirements imposed by ICT, Internet connection stands out as a major precondition. Without a powerful and fast Internet connection it is not possible to exploit the potential of this new resource based on interactive materials and vast amounts of video and audio content. In Croatia major steps have been taken towards implementing ICT in various spheres of life so as to continuously provide the users with reliable and easy access to information contained within such systems.

As a consequence, a range of services has appeared in the Croatian ICT market over the last couple of years. To ensure easy access from any location, providers have been devising a vast number of technologies. The currently available services include the following:

- dial-up modem and ISDN connection – available through CARNet at a significantly (up to 50%) reduced rate;
- in cooperation with VIP, CARNet provides wireless Internet access starting at 115kbps – CARNet Mobile etc.;
- Homebox service (integrating fixed telephony with wireless Internet) provided by VIP
- ADSL (wired technology) available from various providers offering a number of different service packages and also varying transmission speeds
- always-on connection, loaned cables.

However, the rather intense rate of introduction of these technologies has by no means been motivated by their strategic importance for e-learning. It is the recognition of the need to ‘catch up’ with the rest of

Europe, the desire for increasing the living standard, as well as potential financial gains in the growing ICT market that have been the driving force behind embracing the current ICT trends.

The fact that, owing to CARNet, ICT has been implemented into primary and secondary schools over the last year or two has stirred a minor revolution among teachers. Currently all primary and secondary schools are connected to the Internet, which means that each of the schools has also had to set up their own local area network, which is a work still in progress in many schools. The new connectivity has contributed to the improved status of Informatics as a school subject in both primary and secondary schools, which has in turn resulted in the awareness of new possibilities of instruction in computer laboratories as well as the development of the infrastructure necessary for such instruction. According to a CARNet research among university students, 91% of respondents own a computer with an Internet connection [4]. Therefore, it can be assumed that Internet access does not present a difficulty, at least when university students are concerned, as Internet access also tends to be one of basic facilities provided 'on the premises' by a majority of faculties.

To sum up, ICT is currently one of the principal factors for basic assumptions of e-learning – Internet access as a means of access to educational content within LMS (Learning Management System) systems – to take effect in Croatia. The increase in the number of ADSL connections, along with a range of other services available from different providers additionally contribute to its growing presence and, consequently, importance. To support this claim, it should be mentioned that in a comparative research aimed at determining the level of ICT proficiency in 110 countries worldwide, Croatia has been ranked 46th – between Slovenia being ranked 30th and Bosnia and Herzegovina 89th [40]. However, in spite of effective strategies employed in coping with the connectivity issue, another challenge yet to be solved has arisen – a lack of human potential in the professional and personal sphere to employ this technology.

Generally speaking, in the wider globalised context, in which the ability to use English and IT are perceived as generic skills in both professional and academic environments, it is worthwhile considering the extent to which language proficiency affects computer (especially Internet skills) and vice versa. More specifically, their interaction can be examined in education, especially in foreign language learning, where the Internet is repeatedly identified as a resource which, if used wisely, can yield gains surpassing mere language proficiency in helping promote a questioning mind, increase students' participation, and widen and deepen cycles of learning [20].

3. Impact of information technology

development on the English language and English as a foreign language instruction

Although the figures are to be interpreted with caution, it goes without saying that technology plays 'a huge role in English's global triumph.' [12] Owing to IT, certain conventional parameters of communicative situations have been remodelled. Chat rooms, as an example of 'electronic dialogue' [11] that primarily involves writing, have been recognized as a type of CMC (computer-mediated communication) that resembles spoken language for being 'much quicker and more interactive than traditional forms of writing.' [6]. The new medium, as D. Crystal points out in his analysis of Netspeak [11], requires the 'language to suit the technology.' Considering that exchange of information is the ultimate goal of communication, pragmatics, that is, 'the way in which people actualize the meaning potential of language' [39] is what seems to be gaining strength in the face of a declining language standard.

Another change brought about by the ever-increasing presence of English as a medium of international academic and business communication is the diversification resulting in EAP (English for academic purposes) and ESP (English for special/specific purposes), closely related to EOP (English for occupational purposes) as separate fields of interest for both language trainers and learners. What makes each of them different from the 'mainstream' EFL (English as a foreign language) instruction are 'actual and immediate needs of learners who have to successfully perform real-life tasks their clearly defined aims' [32] Unlike general English, the purpose of which is to 'provide a specified corpus of linguistic knowledge', ESP is supposed to 'make the learners into better processors of information' [19]. Consider the example of medical students to whom ESP is literally 'a matter of life and death' [23] or technical students – IT students included – to whom the jargon taught should be strictly aimed at identifying and solving problems with things [18].

By and large, Croatia seems to have fulfilled the requirements for e-learning implementation. However, critical improvements yet need to be carried out in providing prompt and effective training to teaching staff. Namely, according to a research on e-learning in Western Balkans countries, over 50% of the respondents claimed that the level of ICT skills among teachers is insufficient to respond to future challenges imposed by e-learning [14]. Thus teachers – the ones responsible for carrying the heavy load of e-learning implementation in practice – are not only supposed to adopt the new technologies to the point at which they feel confident using it but also to familiarize themselves with the new educational methods. Another group not to be disregarded in terms of its size are the so-called digital newcomers –

individuals who cannot choose but to acquire basic computer skills if they are to exploit the benefits of ICT in general, including e-learning. In Croatia there is a number of educational institutions offering courses aimed at acquiring exactly the knowledge and skills required by individuals having to operate computers on their own. It is projected (if not predicted) that in future companies may enable their employees to acquire knowledge by using their own educational materials via the company's local area network and their own LMS system.

4. Language skills redefined: standardization and integration

The number of non-native speakers of English and the diversification of specialized areas of language to be acquired by those speakers for professional purposes has given rise to a comprehensive common specification of language skills and competences at various levels of language learning – six levels altogether – aimed equally at language teachers and learners, syllabus designers, examiners and employers embodied in The Common European Framework (CEF) [37]. This pivotal document of the Council of Europe reflects 'a communicative, action-based, learner-centred view of language learning' [17]. The aspects of CEF in which its pragmatic mission is prominent indeed include classifying the skills in terms of different communicative activities occurring in different work environments. Additionally, the rather static traditional concept of the four basic language skills: listening and reading, referred to as 'receptive' or 'passive' skills, as well as speaking and writing, referred to as 'productive' or 'active' skills [15] has been redefined in CEF. One example of this novel specification is a communicative activities grid [9] in which the four skills are conveniently broken down into reception (spoken/audio-visual/written), interaction (spoken/written) and production (spoken/written). It is through such grids that the relation between various skills and sub-skills is best seen. Such an insight is particularly valuable in addressing problems related to individual skills. The perception of reading/writing connection (both of them being acts with communicative purposes) is a key to an effective teaching practice concerning these two literacy skills. [37] Another kind of integration is that between various disciplines. Of particular interest to the subject of this paper is an interdepartmental ESP/IT-related project of developing (traditionally poor) writing skills in computer science students aimed at producing better computer science term papers [30].

One of the truly novel contributions of CEF is its explicit acknowledgement of strategies, or meta-cognitive operations in line with the contemporary 'learning to learn' approach drawing on the well-established concepts of learner autonomy and self-directed learning. As it is these very skills that

computer-assisted language learning relies upon, [35] success or failure of implementing such technology in foreign language instruction will, apart from language and CMC proficiency, depend on students' autonomy and critical literacy. The fact that there is more to e-learning than it being a mere technological imperative has been recognized by Bates [1] who stated that the implementation of technology in learning is not only a technical issue, as it requires careful consideration of target groups, methodology, financial priorities and, above all, aims of a particular higher education institution to implement e-learning. While defining those aims, according to Bates, the instructional potential of the new technologies should by all means play a determining role.

The construct of communication apprehension (CA) has been defined as communication anxiety predisposition or traits, that is 'the level of fear or anxiety associated with either real or anticipated communication encounters'. ([24] and [25] p. 78). CA has a negative impact on students' academic achievement [28] as, in comparison with other students, they tend to be evaluated less favourably by teachers [8] and do not score equally well as other students in university enrolment interviews [36]. CA is encountered in direct (face-to-face) communication as well as CMC communicative situations [7]. These findings indicate the importance of research into CA among university student population. The objectives of the research presented in this paper have been defined in accordance with these findings. The overall objective of this research is to investigate the nature of the relation between the quality of communication on one hand and language- and communication skills constituting it on the other, both in direct (face-to-face) communicative situations and CMC integrated in EFL instruction. Additionally, the overall objective includes establishing the correlation between the three key factors mentioned. Specific objectives are improving students' language- and communication skills in order to provide them with tools indispensable for taking full advantage of the Internet as a contemporary medium of communication.

5. Research

Method

A. Respondents

Respondents in the research were first-year students of the Faculty of Organization and Informatics attending the undergraduate programme in Information Systems in compliance with the Bologna process. The total sample included 153 students aged 18-19 on average, 80% of whom are male students; among them, 96% are full-time students. The research was carried out in the winter term of the academic year 2006/07.

B. Measurement

a) Personal Report of Communication Apprehension (PRCA-24), author [24], published in

[34], pp. 292-295; [26], pp. 208-210; [33], pp. 133-134; [31] etc. The questionnaire comprises 24 statements. The respondents are supposed to indicate the degree to which each of the statements applies to them by circling one of the degrees on the accompanying likert scale. Within the PRCA-24 scale, four sub-scores can be distinguished. The items pertaining to each sub-score describe communication in four communication contexts: group discussions, meetings, interpersonal communication, public speaking. The reliability of the scale is 0.93-0.95 [27].

b) Language skills evaluation questionnaire. The questionnaire was specially designed for this research. The respondents were given an inventory of various examples of computer usage. The respondents were asked to assess the importance of using EFL for each example of computer usage as well as the importance of proficiency in general English as opposed to technical English for each example of computer usage. As each of them presupposes certain language skills, the instances of computer usage that best illustrate particular language skills have been selected. The following four examples of computer usage were thus included in the questionnaire: 1. Computer-supported learning (related skills: predominantly reading, possibly writing – note-taking); 2. Participating in blogs (related language skills: reading and writing equally represented); 3. Completing web surveys (skills: reading); 4. Participating in videoconferences (skills: primarily listening, possibly speaking). It is evident that the mentioned examples of computer usage tend to illustrate a couple of related, or naturally integrated, language skills. It should be mentioned at this point that, apart from the four ‘basic’ language skills, the importance of various sub-skills needs to be acknowledged for each particular instance of effective computer usage. Critical literacy [22], for example, is particularly relevant for 1. and 3. Although meta-cognitive in nature, critical literacy, at least in case of exposure to content in a foreign language, heavily depends on foreign language proficiency, i.e. level of development of particular ‘basic’ language skills.

6. Interpretation of results

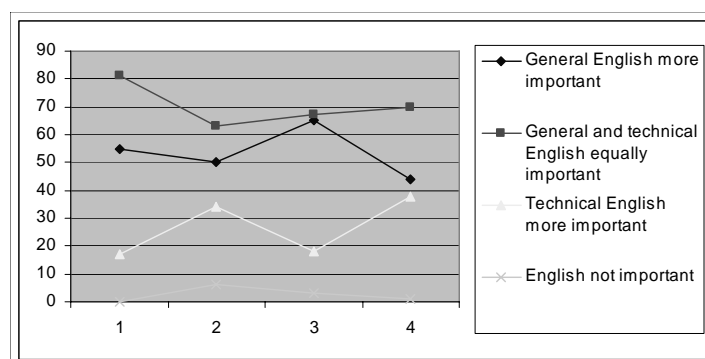


Figure 1. Assessment of the importance of the proficiency in general English as opposed to technical English in various examples of computer usage.

A) Results related to students’ attitudes towards the importance of EFL for computer usage

The results indicate that the students tend to perceive the proficiency in general English and technical English to be equally important in all the four examples of computer usage included in the questionnaire: learning, blog, web survey, video conference (the top line in Figure 1. marked with triangles). The proficiency in general English as opposed to technical English has been ranked second (the middle line in Figure 1. marked with diamonds). The proficiency in technical English has only been ranked (the bottom line in Figure 1. marked with squares). Considering that, by definition, an ESP course is supposed to respond to students' immediate needs [38], it comes as surprise that respondents failed to recognize the ESP character of the language course as meeting their requirements better than a general English course would. Presumably there are several possible (and rather paradoxical) reasons for such perception:

- different entry levels: lower-level-proficiency students are more likely to require and expect consolidation of basic grammar and vocabulary than exposure to specific aspects of technical language;
- the (misleading) title of the course (‘English language I’) which does not clearly reflect the nature of the course;
- students’ conviction that, being proficient in computer skills, they are equally proficient in technical English (English for IT) and thus do not require training in that respect;
- the fact that, at the basic level and in certain communicative situations, the ESP IT jargon is indeed indistinguishable from general English.

Nevertheless, it is notable in Figure 1. that no respondent perceived the proficiency in English as irrelevant for the overall process of learning, with only a few respondents (fewer than 10%) stating that English was not relevant for the other three examples of computer usage. These results clearly indicate the huge importance of the present English language course as a part of university curriculum aimed at future IT professionals.

Legend: 1=Computer-supported learning; 2=Participating in blogs; 3=Completing web surveys; 4=Participating in videoconferences.

B) Factors related to the quality of communication in various social contexts

Although students are encouraged to use the computer for the purpose of their English course – mainly in doing homework assignments or as a means of obtaining teaching materials – English language instruction at the Faculty of Organization and Informatics for the time being predominantly relies on methods requiring direct (face-to-face) communication. It is not uncommon for such communication to be negatively affected by CA [5], especially when accompanied by computer anxiety [2]. By means of factor analysis (FA) [13], which is a method of principal component and a method of principal component with Varimax rotation with

Kaiser normalization, eigenvalue over one, the following four CA factors have been extracted: 1. the general communication displeasure factor 2. the general communication pleasure factor 3. public speaking apprehension factor and 4. group communication apprehension factor. These four factors, taken cumulatively, account for as much as 55,542 % of variance in results.

Factor markers describing the individual factors more closely are included in the table in Table 1. They have been selected according to whether the correlation (that is, projection) of their items with a particular factor is above 0.60, with a minimum correlation with all the remaining factors in each particular case.

Table 1. Projections of several selected PRCA-24 scale factor markers obtained by means of the matrix comprising individual components

| PRCA-24 (ITEMS) | Factors | | | |
|-------------------------------------------------------------------------------|--------------|--------------|--------------|---------------|
| | F1 | F2 | F3 | F4 |
| 5. Engaging in a group discussion with new people makes me tense and nervous. | 0,653 | 0,000 | 0,342 | 0,000 |
| 3. I am tense and nervous while participating in group discussions. | 0,638 | 0,181 | 0,150 | 0,232 |
| 4. I like to get involved in group discussions | 0,000 | 0,769 | 0,130 | 6,394 E-02 |
| 16. Ordinarily I am very calm and relaxed in conversations. | 0,254 | 0,700 | 0,170 | 0,198 |
| 22. My thoughts become confused and jumbled when I am giving a speech. | 0,176 | 0,198 | 0,752 | - 0,000 |
| 11. Communicating at meetings usually makes me uncomfortable | 0,143 | 0,269 | 0,723 | 0,167 |
| 1. I dislike participating in group discussions. | -0,000 | 0,275 | 0,155 | 0,786 |
| 7. Generally, I am nervous when I have to participate in a meeting. | 0,394 | 0,155 | 0,104 | 0,709 |

Neither Pearson correlations between the four CA factors in direct (face-to-face) communication nor the students' assessment of the importance of proficiency in English as a foreign language in various CMC situations is statistically relevant ($r < 0,20$, $p > 0,05$). These findings probably indicate that the CA factors affecting direct (face-to-face) communication are not the same as those affecting CMC. Research into the differences between direct communication and CMC points to differences in the quality of communication between the two types of communication (for example [7],[21]).

7. Conclusion

By and large, Croatia seems to have fulfilled the requirements for e-learning implementation. However, critical improvements yet need to be carried out in providing ICT training to teaching staff. Along with adopting the new technologies, teachers also need to familiarize themselves with the new educational methods. Owing to the rapid technological developments resulting in an unprecedented revolution in language, a clear-cut

distinction between communication skills, foreign language skills and computer literacy has become elusive. Although each of them is essential for and specifically developed by certain courses, the effective approach to mastering any of these skills presupposes the integration of skills. It is notable that owing to the introduction of CMC, conventional parameters of communicative situations have been remodelled. The results of research into the relation between the quality of communication on one hand and language- and communication skills constituting it on the other can be applied to the EFL instruction at the undergraduate study level in direct (face-to-face) communicative situations as well as CMC integrated in EFL instruction.

One of the major pedagogical implications of this research is the fact that a vast majority of respondents recognized the importance of English as a useful tool for their studies in general, which certainly speaks in favour of inclusion of EFL courses in the curriculum. Nevertheless, it comes as surprise that students perceive proficiency in general English to be more important than that in ESP (technical) English when language required for using the computer is

concerned. Not only are these findings invaluable for future curriculum development, but they also point to the need to familiarize the students with the aims and outcomes of a course, which, in view of their future profession, should ideally be an ESP course. While designing such a course, it is as important to select skills relevant for the particular field of interest as it is to develop meta-skills, that is 'learning to learn' strategies. Last but not least, the role of the teacher in the newly arisen context of ICT-supported learning is by no means diminished. The redefined role of the teacher is no longer exclusively that of a source of information on language but of a 'consciousness raiser in charge of channelling students' awareness (...) and recommending strategies which will encourage autonomous learning [29]'.

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