

CONFERENCE PROCEEDINGS
CHALLENGES FOR COMPUTER-ASSISTED APPLIED LINGUISTICS (CCAAL)

a workshop in the
33rd Poznań Linguistic Meeting: *Challenges for linguistics in the 21st century*
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Introduction

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This is what appeared in the **first circular** for the CCAAL workshop in January 2001:

Applied linguistics is thriving in Europe and in Poland. The volume of foreign language teaching, translation or dictionary-making, to name just a few areas, is reaching unprecedented heights. Computer assistance is used more and more in all these activities. While there have been conferences devoted to applied linguistics and computer support in education, we believe that the issues concerning the theoretical and practical challenges currently encountered at the interface of the two fields have not so far been addressed properly. We feel that computer-assistance is either taken for granted or treated as a (yet to be deployed) panaceum for all applied linguistics problems and weaknesses.

We propose a different approach, one which is epitomized in the concept of 'challenges'. The workshop will be about the challenges of CAAL, both those which, while known, have not been faced and solved yet, and those which one may foresee in the future. We propose to identify and tackle these challenges here and now, in the workshop being part of the next Poznań Linguistic Meeting. The following is a short list of CAAL challenges which is meant to suggest and stimulate, but by no means exhaust the inventory:

- inflated promises and expectations,
- hardware and software problems,
- hardware and software availability,
- language barrier -- software localization,

- user interface and effectiveness,
- learner and teacher training,
- classroom integration,
- Internet.

As far as CAAL itself is concerned, we propose a wide view in which 'computer-assistance' may be understood in many ways, from the minimum of word-processing to the maximum of systems fully equipped in artificial intelligence and working with no continuous human supervision. Applied linguistics, in turn, is equally liberally interpreted as encompassing practical linguistic applications of linguistics, socio- and psycholinguistics, computer-science, pedagogy, media studies and others. At the interface of these wide ranges of research will be, among others, such sciences and activities as:

- Computer-Assisted Language Learning/Teaching/Instruction (CALL/CALT/CAI)
- Computer-Assisted Translation (CAT)
- Computer-Assisted Lexicography (CAL)
- Applied Corpus Linguistics (ACL)
- Natural Language Processing (NLP)
- Computer-Mediated Communication (CMC)
- Human-Computer Interaction (HCI)



This turned out to be a rather ambitious scheme. As itemized in the [report](#) from the workshop prepared by Jarek Krajka, fourteen presentations were given, spread over a large area of CAAL, and covering (with the exception of CAT) all the fields mentioned in the circular. For a number of reasons only five of these presentations eventually made it to the stage of publication in *Teaching English with Technology*. These are, in the chronological order in which they appeared on Friday, 27th April 2001 (as summarized by Jarek Krajka in his report):

- **Anatol Shevel** showed how to teach the whole class with a multimedia programme on one computer, using programmes very much different from the ones accessible on the market. His programmes are like a computer game, where there is only the content (dialogues, films, animations, etc.), but there are no language activities and the teacher is free to adapt each page of that multimedia book to present what is going to be taught.

- When talking about electronic dictionaries and learners of English, **Włodzimierz Sobkowiak** presented the results of a survey investigating teachers' attitudes to e-dictionaries. The results show that although more than half of subjects know and use at least one computer dictionary, none of the teachers has used it in the classroom, even though most of them have the conditions to do that. The conclusion was that teachers react negatively to computer dictionaries and do not promote them, and that should be amended with proper teacher training.
- The next speaker, **Krzysztof Jagielowicz**, provided a theoretical background to the other presentations by talking about Computer-Mediated Communication (CMC), and specifically about its advantages (equality, participation at one's own pace and without seeking permission, reduction of context clues relating to race, gender, handicap or status) and problems (flaming, abuse of power and control, lack of response, lack of purpose).
- Next, **Jarek Krajka** discussed the issue of training online teachers of English, giving the necessary qualities such a teacher should possess, as well as reasons why teachers of English should take their instruction online. The author presented the results of surveys conducted among students (pre-service training) and teachers (in-service training), and proposed specific training solutions for both of these environments.
- After that, **Monika Tarantowicz-Gasiewicz**, claiming that there are no established pedagogical standards for student model in CALL, wanted to establish some parameters and arrive at some objective standards. By working out a framework for standards, then choosing a pedagogical theory underlying them, deriving standards from it, she came up with a complex student model in a CALL environment.

Paweł Topol, who could not make it to Bukowy Dworek, nevertheless contributed his paper on educational web-page design by language teachers. He wrote about the what (what is, and what can be, the content of educational web pages), the why (why is it advantageous to create private web-pages) and the how (how to design a page, possessing very little or no programming knowledge).

Altogether, then, in the six papers appearing here, the reader will find the discussion of a variety of CALL issues: from the use of multimedia programs (Shevel), through electronic dictionaries (Sobkowiak), computer-mediated communication (Jagielowicz), teacher training in web skills (Krajka), intelligent CALL (Tarantowicz-Gasiewicz), to web-page design

(Topol). It is easy to see that the focus of all six is the process of teaching and learning English as a foreign language. This is of course far from surprising: all contributors are practising teachers and/or teacher trainers who regularly use computer assistance in a variety of EFL tasks on the one hand, and critically reflect on the process on the other. Looked at from another angle, it is similarly not unexpected that the use of educational FL CD-ROMs, EFL electronic dictionaries, EFL-oriented e-mail or internet is at the centre of attention of both teachers and researchers in widely conceived CALL, here and now, i.e. in the Polish FL classroom of 2001. This is not to deny that Polish schools have other, less technological, worries in the time of school reform and budget cuts. But there are telling signs that computer technology is rapidly entering the Polish educational scene, one of these signs being the enormous popularity of teacher-oriented journals like this one, *Teaching English with Technology*, which has kindly devoted its special issue to the presentation of the content of the CCAAL workshop.

So, what is the bottom line? I would phrase it like this: yes, there is the challenge of bridging the technological gap, of overcoming teachers' reserved attitudes, of raising the computer/CALL literacy levels. Yes, it is true that disappointingly few (language) teachers use modern media in their day-to-day teaching practice. Yes, it is true that some (EFL) software is not very good in terms of didactic design or user interface. Sadly, enormous progress in language engineering has not yet made the quantum leap into speech understanding, which would open new, breathtaking vistas to CALL.

But all these challenges bring promise; the promise of more (artificially) intelligent CALL programming, the promise of even better access to the web with its alternative linguistic reality, the promise of language teachers who will not only know how to use computers to a good effect in class, but will also want to do it, for their own as well as their students' sake.

These promises will not come true by *fiat*; and they will not materialize overnight. Ultimately, it is us, teachers and teacher-trainers, who will bring the changes about. We will do it so that the educational potential inherent in the new generations of computer-savvy kids is not wasted. Nobody will do it for us.

***COMPUTER-ASSISTED CONVERSATION PRACTICE
AS A PART OF COMMUNICATIVE LANGUAGE TEACHING.***

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Abstract

The article is an attempt to describe the author's experience in applying "interactive book" computer games as an efficient aid in developing students' communicative abilities in class. The teacher in this case acts between the group and the game, which is being run by them, according to previously designed communicative exercises. Each step of the game can be aimed at practicing different language skills. Due to topical variety of the games or even within one game, it seems possible to do variable vocabulary and grammar practice. The approach appears still more attractive in case a school can not afford a full-sized computer laboratory to work with traditional language training software, as well as increases the role of the human factor in computer-assisted language training.

When personal computers became affordable by a wide range of individual users, one of the programmers' challenges was to offer virtual entertainment to our homes. First products were animated puzzles (like Tetris) or achievement games (like CD-man), that hardly communicated with the owner. One of the first most "talkative" was *Larry* - a game which could be properly run only through reading the messages.

The transition to present-day multimedia educational appliances was marked by awkward and expensive hardware attachments to a computer supplying school courses on discs the size of analogue LP.

Availability of a sound card and a CD-ROM drive opened new prospects for teaching practice by offering relatively small "talking" discs of high capacity. The state-of-the-art entertainment and educational programmes are now issued in a variety of titles and levels of sophistication.

The present article is an attempt to find a compromise between the attraction of multimedia facilities and teacher's efforts to make their conversation practice most efficient.

The basic objective of the whole research is the ways of developing learner's **creative thinking** which is regarded as an indispensable element in teacher training. This ability has proved to be most productive in triggering the fostering of cognitive processes crucial in the EFL teaching situation. The implementation of the communicative approach is regarded as development of the learner's ability to take part in meaningful communication in different settings with special emphasis on adequate functional and situational language use.

The numerous articles and monographs which have recently been published on these problems have all tended to emphasise that creative thinking can be defined as a cognitive

process which results in a number of alternative responses to a given task that are perceived in some way as novel or unusual. It is also very important to consider basic concepts inherent in creative thinking as including ideational, association, expression and word fluency, naming facility, figural fluency, figural flexibility, sensitivity to problems and originality (see: Murray, 1991; Nonaka & Takeuchi, 1995; Wortham, 1994; Pask, 1976). These abilities are inevitably related to linguistic competence.

Practising language teachers realise that the situation of EFL framework shifts the focus onto other components of language proficiency in comparison with native speakers. The well-established four aspect communicative competence model which encompasses grammatical, sociocultural, discourse and strategic competence is not quite relevant for EFL teacher training in Poland, where one of the most critical limitations is scarcity of real world settings requiring the demonstration of proper language performance in terms of pragmatic strategies. As rightfully noted by Hrehovcik (2000), communicative theory puts emphasis on the fact that every speech act takes place in a specific social situation, and that the partners of communication have their specific sociological background. In consequence, this sociological situation is then reflected in the selection of formal or informal language, and the selection of lexical and grammatical units.

The crux of the matter here can be the teacher's challenge to involve students in exercising special activities which further foster imagination and provide meaningful responses in typical life situations through the systematic analysis of ways and attitudes which prevail in familiar classroom situations. Among the most efficient ones I can mention elaboration on such notions as personal and emotional involvement in the work, peer assessment, self expression, co-operative learning, motivation, linguistic and communicative competence.

Furthermore, it is very important to realise the necessity of giving reasonable freedom to the students to work at their own rate, encouraging them to use their own knowledge.

Summing up the above theoretical implications I have been trying to work out a certain agreeable solution on how to combine the possibilities and attractions of multimedia equipment with the enormous role of human factor in efficient class language learning through conversation.

However technically updated a traditional computer language course is, it is always designed according to the same algorithm : the student is offered a set of vocabulary or grammar practice in variety of ways. The distinction between such programmes basically lies in the scope of practice exercises and quality of graphics. They are intended to be practised by an individual student and are used as a multimedia manual of English. Without doubt, modern

techniques of voice sampling and on-line grammar correction allow a learner sufficient independence from the teacher's assistance. Nevertheless, judging by my personal teaching experience, such training can be treated as only a good basis for productive communication.

Considering presently most popular PC language courses (ET 4.0, Multimedia Language System, POP English, Euro++, English 1, Longman FCE Grammar ROM, Cambridge TOEFL, Days out in Britain, Doctor Watson, Novell Read With Me, Best Reading Programme Ever, etc.) we can see that they differ only in the degree of internal sophistication. Nevertheless, their structure remains typical: for vocabulary practice – supply the right word or phrase, for grammar – use the correct form, for phonetics – repeat after the speaker in recording mode. Of course, the programmes have options of choosing the level, on/off timing mode or give the efficiency feedback, which, if done in class, enables the teacher to act only as a backseat driver.

To achieve the goal of providing a supportive environment to communicative learning I adopted another course of action. Apart from the mentioned drawback of classical linguistic programmes, which minimise the human factor in education, there exists still more seizable and rather common for Poland reason – scarcity of computers in schools. We needn't look deep into the case to claim that at present only top private language schools can afford a full-group computer lab where a teacher can seat 15 students.

The suggested approach to PC-aided training demands only one computer for a group plus a bit of teacher's creativity. The fact is that we can effectively place a group of 15 or more students in a horseshoe in front of a 17 inch monitor or still better a projector. In such an arrangement the teacher is a medium who is running the programme and guiding the students in their language production. Most suitable for this purpose software can be the type commonly known as "live book". The games come in a variety of themes and with different language capacity. On the whole they are highly attractive and absorb both younger and adult learners. Most commonly used titles are Freddie fish, The Farm, The Jungle, The Airport, Big Thinkers, Me and My Mom/ Dad, Spy Fox, Backyard Baseball. The games cover a variety of topics, provide a teacher with well-designed settings and are full of jokes or humorous episodes.

The teacher's creativity can be productively clued by a few principles and schemes of exercises used in communicative teaching. Basic grammar items on which the teacher can concentrate are: Article / Tenses / Passive voice / Conditionals / Modals / Reported speech / Adverb-Adjective / Gerung-Infinitive / Sentence structure (Emphasis) / Wordbuilding.

Types of exercises commonly used in designing communicative-type exercises include the following: Correct the statements, Complete the sentences (open-end sentences), Say the opposite of the sentence, Ask another student if statement is True or False, Ask another student for information, Guided questions (statement > ask "why", "where", etc).

Setting up a certain educational goal for each step of the game the teacher prepares exercises respectively. While running the game the teacher makes pauses (which is technically very easy) at certain steps of the programme to work with the students, who are usually absorbed by the development of the plot. Student's involvement into what is happening on the screen creates a good opportunity to make a conversation going. The crux of the matter here is to adjust the tasks so that they fulfil their educational purpose and are entertaining in the given communicative situation, provoke students for language production.

The author will gladly share the knowledge and experience in using this type of computer games, as well as accept any suggestive remarks.

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THE CHALLENGE OF ELECTRONIC LEARNERS' DICTIONARIES

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Abstract

The knowledge of and attitudes toward modern educational media, specifically machine-readable dictionaries (MRDs), among teachers of English as a foreign language (EFL) are an important factor in the process of EFL learning and teaching, and the ultimate learners' success or failure with the language.

Twenty-five in-service teacher-trainees doing their one-semester post-graduate study of TEFL in the School of English, Adam Mickiewicz University, were asked about their experience of, and attitudes toward, electronic EFL dictionaries. Twelve yes-no-? questions were asked. The results of the questionnaire show that: (1) not a single teacher "has used a computer dictionary of English recently in class", even though most have access to one at home and at school, and few believe that it would disrupt the flow of the lesson, (2) teachers have rather superficial experience of MRDs, if at all, (3) those with no experience tend to have rather inflated expectations of MRDs' content and function.

If only 26 out of 712 EFL students in all types of schools in Poland have ever used an EFL MRD (Lew[1], forthcoming), some of the blame falls on the teachers whose meager skills and bad attitudes appear to be a serious challenge to the future of (computer-assisted) EFL in Poland.

Introduction

The teacher, with his/her knowledge, skills, experience, attitudes and emotions, is — despite the often aired fears of the profession — an indispensable element of the Computer-Assisted Language Learning (CALL) classroom. But in order to function properly in this challenging milieu s/he must accept new roles and obligations (Litwin 1998), as well as adjust some of his/her attitudes concerning the technological enhancements of the didactic process.

There is some research on teachers' computer literacy and attitude to new educational technologies, both abroad (Simonson 1987, Galloway 1990, Massoud 1991, Pilus 1995, Brown 1999, Lam 2000, Tuzcuoglu 2000) and in Poland (Zemla 1998, Lis 1998, Gornikiewicz 2000, Gajek 2001, Krajka 2001). All results point to an urgent need for well-profiled teacher training, and emphasize that the lack of functional computer literacy is the greatest challenge to introducing CALL on a larger scale than is currently observed.

In none of the above studies, however, were respondents specifically queried about electronic dictionaries (even if other standard applications were touched upon: spreadsheets, text-editing, e-mail, etc.). And yet, the teachers' knowledge and experience of, as well as attitudes toward, electronic learners' dictionaries are among the most vital elements of the new situation in which foreign language (especially EFL) teachers and learners find themselves more and more often in Polish schools. FL dictionary is one of the crucial components of FL teaching and learning the world over, with many potential functions and uses actualized in practically all FL situations: from the formal setting of the FL classroom, through homework tasks, to more authentic contexts of multilingual communication, both in the real and virtual

world (Internet). In all these situations EFL MRDs appear to be used more and more often; indeed sometimes to the practical exclusion of the more traditional lexicographic resources (e.g. in computer-mediated communication). Especially so, as many learners' MRDs take on new functions by offering substantial self-study components complete with exercises and tasks of all kinds, thus bridging the gulf between electronic dictionaries and CALL *sensu stricto* (e.g. Tschichold 2001).

In his extensive study of EFL dictionary use among Polish learners Lew (forthcoming) was not particularly interested in MRDs as such. He did ask, however, "which two dictionaries do you use most often", also querying for publication details. As it turns out, only 26 (3.6%) of his 712 respondents[2] used an MRD as one of their favourites. To an unknown extent this is an obvious result of the painful scarcity of computer hardware in Polish homes, but I am certain that deficiencies of learners' and teachers' knowledge and attitude are also to blame.

I decided to probe some aspects of EFL teachers' MRD literacy, with particular attention paid to the changing attitudes relative to the teachers' experience, i.e. in addition to tabulating results globally I also grouped them according to the teachers' declared familiarity with MRDs.

Subjects and data

Twenty-five in-service teacher-trainees doing their one-semester post-graduate study of TEFL in the School of English, Adam Mickiewicz University, were asked on 22nd January 2001 about their experience and attitudes toward electronic EFL dictionaries. The questionnaire was run as (a short) part of a four-hour lecture crash-course on educational technology delivered by the author of this paper. Twelve yes-no-? questions were asked, eight of them duplicated from a much more comprehensive questionnaire circulated among over six hundred Poznań students of EFL in May 1998 (see Sobkowiak 1999). The questionnaire items ranged from rather technical issues of phonetic transcription to ones probing general attitudes to MRDs, as shown below. The four 'new' items, extending the coverage of the questionnaire to include the teacher perspective, are asterisked in Table 1 below. The ordering of all twelve is reverse-alphabetic, exactly as it was in the original questionnaire (see Appendix 1 for a facsimile).

Results and discussion

The results have no pretense — from a small sample like this one — to reaching the full rigour of an empirical questionnaire study, but they are certainly suggestive to the point of

proving it worth while to conduct a more thorough investigation. In the following table raw figures are presented for all respondents globally.

Table 1. Questionnaire results, raw figures (N=25)

	Question (and 'correct' answer where relevant)	Y	N	?
1.	Words can be searched by their sound in a computer dictionary (N)	6	6	13
2.	*Using computers with pupils in class must disrupt the flow of the lesson	3	20	2
3.	*There is access to computer(s) where I teach	19	6	0
4.	Speed is the main advantage of a computer dictionary	12	11	2
5.	Pictures are the main advantage of a multimedia computer dictionary	5	16	4
6.	One can search the whole text (including definitions and example sentences) in a computer dictionary (Y)	15	3	7
7.	It's easier to use a computer dictionary than a traditional one	12	9	4
8.	In a multimedia computer dictionary, phonetic transcription is useless	4	16	5
9.	In a computer dictionary words having similar meaning can be listed (Y)	22	0	3
10.	*I have used a computer dictionary of English recently in class	0	25	0
11.	*I have at least one computer dictionary on my PC at home	15	9	1
12.	Computer dictionaries cannot show phonetic transcription on screen (N)	3	9	13

The most significant observations derived from answers to the questionnaire appear to be the following:

- Not a single teacher "has used a computer dictionary of English recently in class", even though most (15/25) have one at home, as many as 19 have "access to computer(s) where [they] teach" and only three teachers agreed that "using computers with pupils in class must disrupt the flow of the lesson". These results compare in interesting ways with those of Gajek (2001), where only 13% of the 192 FL teachers admitted to not using computers at all, and 87% had access to them at home (67%) or/and at school (60%; cf. item #3 above). Apparently MRDs are (still) perceived as rather sophisticated applications of no immediate use in the classroom, and consequently either not purchased by the schools or simply ignored by the teachers.
- Correct answers[3] to the more technical questionnaire items having to do with phonetic transcription, like 1 or 12, appear in less than half of the returns: thirteen respondents ticked <?> in these questions. The less technical questions, like #6 and #9, were (unsurprisingly) easier: 15 and 22 <yes> answers, respectively.
- About half of the teachers value speed (item 4 — 12 <yes>'s) and ease of use (item 7 — 12 <yes>'s), but only five believe that "pictures are the main advantage of a multimedia computer dictionary".

Some interesting tendencies can be observed when data are grouped according to the professed respondents' experience of MRDs: I divided them, just like in my 1998 study, into 15 'experts', i.e. those who declared having "at least one computer dictionary" at home, and 10 'non-experts', who do not. In Table 2 below the eleven remaining questions of the original twelve appear in the same order as before, i.e. as they were originally presented to the respondents. With the original 1998 questions the top figure in each cell shows the students' response percentage, while the bottom one is the value scored by teachers in the present study. The other three questions, of course, only show the latter results.

Table 2. Questionnaire results, proportions, grouped into 'experts' and 'non-experts'

Question	'experts', %			'non-experts', %		
	Yes	no	?	yes	no	?
1. Words can be searched by their sound in a computer dictionary	26.3 26.7	28.7 20.0	44.9 53.3	18.9 20.0	13.9 30.0	67.2 50.0
2.* Using computers with pupils in class must disrupt the flow of the lesson	20.0	80.0	---	---	80.0	20.0
3.* There is access to computers where I teach	80.0	20.0	---	70.0	30.0	---
4. Speed is the main advantage of a computer dictionary	76.6 46.7	19.2 40.0	4.2 13.3	55.4 50.0	15.0 50.0	29.6 ---
5. Pictures are the main advantage of a multimedia computer dictionary	15.0 33.3	67.7 46.7	17.4 20.0	22.1 ---	30.7 90.0	47.2 10.0
6. One can search the whole text (including definitions and example sentences) in a computer dictionary	53.9 53.3	14.4 20.0	31.7 26.7	28.1 70.0	4.7 ---	67.2 30.0
7. It's easier to use a computer dictionary than a traditional one	61.7 46.7	28.7 33.3	9.6 20.0	25.5 50.0	28.5 40.0	45.9 10.0
8. In a multimedia computer dictionary, phonetic transcription is useless	6.0 20.0	82.6 53.3	11.4 26.7	4.9 10.0	49.8 80.0	45.3 10.0
9. In a computer dictionary words having similar meaning can be listed	82.6 86.7	3.0 ---	14.4 13.3	58.4 90.0	1.1 ---	40.6 10.0
10.* I have used a computer dictionary of English recently in class	---	100.0	---	---	100.0	---
12. Computer dictionaries cannot show phonetic transcription on screen	8.4 6.7	70.1 46.7	21.6 46.7	6.2 20.0	17.6 20.0	76.2 60.0

Expert teachers are more knowledgeable about some of the technical aspects of MRDs, such as their ability to show phonetic transcription on screen (47% <yes>, as opposed to 20% non-experts), but — surprisingly — not about some others: 53.3% experts, as opposed to 70% non-experts believe (correctly) that "one can search the whole text (including definitions and example sentences) in a computer dictionary" (experts may have older MRDs, and non-experts may have inflated expectations). There are also differences in attitude: one in three experts believes that "pictures are the main advantage of a multimedia computer dictionary", and not a single non-expert concurs. Non-experts are also staunch believers in the value of phonetic transcription in MRDs (80%, item #8).

Among the less technical issues, notice that some expert teachers (three persons) actually believe that "using computers with pupils in class must disrupt the flow of the lesson", while no non-experts do (experts know better?). And, as noticed before, not a single respondent, expert or non-expert alike, has "used a computer dictionary of English recently in class".

With the eight duplicate questions there are also some interesting differences between student and teacher responses. Take #4, for example: apparently students are more enthusiastic about MRD speed than teachers, but then it is students mostly who would function in dictionary lookup situations under time pressure... (for some reason there is a reversal of attitude as far as pictures are concerned, #5). However, another attitude item, #7, shows a more complex pattern in that more expert students than teachers believe that "it's easier to use a computer dictionary than a traditional one", but among non-experts, the proportion is reversed. With technical questions the knowledge of expert teachers vs. students does not differ very much, but non-expert students are characteristically more cautious than teachers in expressing their belief about the power of technology (e.g. questions #6 and #9).

To properly substantiate all these speculations a much more thorough study would be needed, of course, but some results are certainly perplexing. Specifically, notice that both among students and teachers there is complex correlation between knowledge and attitude. Experts tend to have different attitudes and expectations towards MRDs from non-experts. This is of course hardly unexpected; a similar pattern is common in other spheres of human life: experts after all know so much better the pros and cons of whatever they are experts in, and this usually fosters more realistic attitudes and motivations. It is here that the urgent need for computer training of non-expert ('computer-illiterate') teachers is most dramatically revealed: the growth of knowledge improves attitudes and motivations, these in turn are badly needed in conveying computer literacy to pupils/students, specifically in the foreign language context.

Conclusion

If it is indeed true that "student concerns about being able to cope with the demands of technology appear to cause some to choose less advanced language learning tasks", as Debski and Gruba (1998: 54) discovered, it is the obligation of the teachers to change these attitudes. If teachers themselves continue to have little knowledge, bad stereotypes and fears of educational technology, as appears from this study, no amount of computing machinery lavished upon schools will help. Specifically, from the point of view of MRD use, teacher trainers should think about it very seriously: the main challenge of electronic learners' dictionaries is in the head of the teacher.

Notes

1. I am grateful to Dr. Robert Lew for his insightful comments on the manuscript of this paper.
2. 57 from primary schools, 231 from secondary schools (gimnazjum, liceum zawodowe, technikum), 324 from tertiary schools (liceum ogólnokształcące, SJO), 52 university non-English majors, 14 Language College students, 34 University English majors. Thanks go to Dr. Lew for allowing me access to his unpublished data.
3. 'Correct' is a relative issue, of course. I am aware that many of the questionnaire items are not easily assigned to the 100% correct or 100% wrong category. In the correctness assumptions appearing in Table 1 I adopted an intuitive evaluation of the respondents' computer literacy, with the ensuing decision of what counts as 'correct'.

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APPENDIX 1

FACSIMILE OF THE QUESTIONNAIRE

ELECTRONIC DICTIONARIES a questionnaire

The aim of the following questionnaire is to collect some data on post-graduate students' attitudes and beliefs concerning the structure and function of certain features of English electronic dictionaries. The questionnaire is completely anonymous, and the results will be used for research purposes only by the undersigned. I am of course vitally interested in receiving many completed forms with truthful answers, but if you do not feel like doing this questionnaire, please return it empty rather than filling it quickly and randomly. I thank you for your time and effort.

Circle the appropriate option:

I am: a) mgr b) licentiate

I teach in: a) primary b) secondary c) tertiary education

I teach in the: a) public b) private sector c) "korepetycje" only

sex: M F

Write Y for yes, N for no, ? for don't know

Words can be searched by their sound in a computer dictionary	
Using computers with pupils in class must disrupt the flow of the lesson	
There is access to computer(s) where I teach	

Speed is the main advantage of a computer dictionary	
Pictures are the main advantage of a multimedia computer dictionary	
One can search the whole text (including definitions and example sentences) in a computer dictionary	
It's easier to use a computer dictionary than a traditional one	
In a multimedia computer dictionary, phonetic transcription is useless	
In a computer dictionary words having similar meaning can be listed	
I have used a computer dictionary of English recently in class	
I have at least one computer dictionary on my PC at home	
Computer dictionaries cannot show phonetic transcription on screen	

COMPUTER-MEDIATED COMMUNICATION: A CRITICAL PERSPECTIVE

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Abstract

Ever since the computer-mediated modes of communication have emerged and, subsequently, started to enter the foreign language school curriculum, numerous attempts have been undertaken by the researchers to assess and fully understand all the corollaries that electronic network communication really brings about, especially when placed within the pedagogically grounded, educational perspective. As computer networks have led to the previously unthinkable and, often, truly exciting new possibilities in transforming the way people communicate with each other, as well as allowed possibilities for substantially more equal and active participation in the process of knowledge creation, the great expectations of how computer networks are bound to enhance foreign language learning in the foreseeable future have been overly aroused. Historically, however, educators' expectations regarding the degree to which new technologies indeed do revolutionise language learning have not necessarily been borne out in practice.

Therefore, this paper will take a close look into both the advantages and disadvantages of the electronic mode of communication and, by drawing on the 'critical perspective approach', will report on the already-known empirical research in this particular field of computer-assisted applied linguistics. Consequently, the comparative study, investigating the extent to which Computer-Assisted Classroom Discussion seems to foster the development of students' spoken language proficiency, will conclude the whole work.

1. Introduction

The purpose of this paper is twofold. Firstly, it will briefly explore the current situation in the field of computer-mediated communication by taking a close look into both the pedagogically grounded advantages and disadvantages of this mode of electronic transmission and, subsequently, will report on the already-known empirical research in this particular field of computer-assisted applied linguistics. Secondly, as the majority of previous studies have been mainly preoccupied with the role of networking in improving learners' written language proficiency and the thought processes involved in writing, the second part of this paper will venture to broaden this particular area of investigation by presenting the results of the author's comparative study aimed at evaluating the computer-mediated potential in promoting learners' acquisition of spoken language proficiency.

While referring to computer networks or computer-mediated communication (CMC) we are turning our attention to activities such as both the synchronous (e.g. real time) and asynchronous (e-mail, bulletin boards) modes of network-based computer exchanges. In a vein similar to Kelm's (1996), familiarity with these networks will be assumed and no digressions will be made to describe them here.

2. CMC: Pedagogical implications

One of the most pedagogically eminent features of CMC which distinguishes this particular mode of communication from the more traditional, oral one, is the greatly increased equality of participation in the electronic mode compared to the face-to-face discussion. Whereas in the latter discourse student participation ranged from 35% (Sullivan & Pratt 1996) to 37% (the first class in Kern 1995) to 60% (the second class in Kern 1995), the electronic mode actively engaged from 85% to 92% of its participants (85% in Sullivan & Pratt 1996; 86% and 88% in two classes examined by Kern 1995; 92% in Kelm 1992). Warschauer (1996a:7), in his experimental study comparing small group discussion online and face-to-face, observed that "the online groups were twice as balanced", which was the result of the fact that "the most silent students increased their participation many-fold online".

Similarly, McGuire, Kiesler & Siegel (1987) found in their study that in network-based environment women propose solutions to a problem as frequently as men do, not five times less often, as it was evidenced in the traditional, face-to-face discussions. Huff & King (1988) observed, that in CMC suggestions of both higher and lower status people are picked equally often as opposed to traditional exchanges where social position held by the participants virtually determined the weight of proposed arguments.

Such a great increase in students' equality of participation in the electronic mode can be attributed to the fact that CMC reduces social context clues related to race, gender, handicap, accent and status, which normally reinforce unequal participation in other types of interaction (Sproull & Kiesler 1991), eliminates non-verbal cues, such as frowning and hesitating, which can intimidate those with less power and authority (Finholt, Kiesler & Sproull 1986, cited after Warschauer 1997), and, finally, enables everybody to contribute at their own time and pace, thus neutralizing those who tend to speak out loudest and interrupt the most (Sproull & Kiesler 1991).

Further, in the course of the computer-mediated exchanges students can initiate communication any time of a day (even outside the classroom) without seeking permission. In her study Wang (1993) stresses the importance of this particular feature of CMC to account for the fact that students conferencing via e-mail (when compared to traditional, paper-and-pencil dialogue journals) display the tendency to write more, generate longer stretches of text, ask as well as respond to more questions, and use a greater variety of language functions (Wang 1993).

Other pedagogically sound and potentially benefiting characteristics of CMC include:

- students' chance to be engaged in intercultural communication conducted on a regular basis via a fast and inexpensive medium (see Warschauer (1995b) for the whole array of such examples),
- increased ability for reflection when compared to the traditional, oral mode (Lamy & Goodfellow (1999) argue that learners' engagement in 'reflective conversations' in the asynchronous, computer-mediated learning environment fosters their language acquisition),
- numerous corollaries between theories concerning SLA and characteristics of electronic network communications, especially in terms of (cited after Kelm 1996: 21-23): (1) natural language environment (whereby the conversations focus almost entirely on content), (2) concrete referents (CMC topics usually relate to the here-and-now), (3) communication with peers (the process of SLA is believed to be more effective when learners' model their speech with peers rather than teachers or parents (Ellis 1994)), (4) feedback (the large percentage of tags, questions, or requests for information that accompany the comments) and (5) affective factors ("students' positive attitude toward using computers for writing and authentic, real-world communication in the language classroom, the feeling of personal empowerment and the enhancement of learning opportunities" (Warschauer 1996b: 41)).

Regrettably, however, the vast majority of the above-mentioned studies concentrate merely on noticing the potential of the electronic mode of communication and report on the, undeniably promising, corollaries between the theories concerning SLA and pedagogically salient characteristics of electronic network communications. As Warschauer & Kern (2000: 2) correctly observe, to date “there has been relatively little published and in-depth, data-based research that explores the relationship between the use of computer networks and language learning”. Therefore, the above characteristics of CMC can only be perceived as the partially tapped potential of the great educational benefits which, in order to be explored to its full extent, requires a much more thorough examination of the network-based issues.

However, in spite of all the potential pedagogical benefits deriving from the very nature of CMC, some researchers set out to point our attention to the possible problems which can interfere with the concept of network-based collaborative learning.

3. CMC: Problems, limitations and dilemmas

To begin with, Weisband (1992) found that consensus-oriented electronic discussions differ substantially from their oral counterparts as the task of achieving an agreement is much more strenuous during computer-mediated sessions. Specifically, she comments that in face-to-face discussions the second member of a group was likely to agree with the first speaker, and the third even more so. As a result, by the time the third person took his turn, the group was on its way to reach a consensus. On the contrary, in online electronic discussion the third member’s proposal was equally far from the ultimate group decision as the first member’s was.

This intersection led Sproull & Kiesler (1991: 65) to conclude, that “electronic mail reduces conformity and convergence as compared with face-to-face group discussion”. While Weisband (1992) focused her attention on the asynchronous mode of transmission (i.e. e-mail), it is a common preconception that in the much more vivid real-time interaction these results would only be strengthened. Obviously, this would characterise synchronous communication as being more appropriate for generating discussion and ideas rather than serving as a reliable means of solving decision-based tasks, the fact that has already been pointed out by Warschauer (1999) in the course of his excellent, 2-year ethnographic study.

Another factor of CMC that is capable of obstructing cooperative learning is the emergence of rude and belligerent language, called flaming. Flaming usually occurs as a side-effect of the same above-mentioned features of CMC which promote free expression, and can escalate to such an extreme degree that "in one electronic discussion participants had to be escorted individually out of the building" (Sproull & Kiesler 1991: 65).

Furthermore, Moran (1991) lists information overload as the other problem intervening with the proper flow of arguments during the computer-mediated discussion. Basically, participants can be so occupied with writing their own messages that they ignore the writing of others, making the conversation “a set of asocial monologues” (Moran 1991: 60).

Additionally, apart from its positive features, the shift of power (from teacher-centered, large-group sponsored teaching toward a more individualized and learner-centered working environment) can as well result in the abuse of power and control in computer-assisted environment (Janangelo 1991). Therefore, the very nature of CMC calls for the sudden urgency to train teacher professionals to effectively apply this new and powerful media into the classroom realia as, while not properly used, “new technologies can accomplish a great deal of good as well as a great deal of evil” (Janangelo 1991).

Other possible problems which can interfere with the concept of network-based collaborative learning include lack of response (featuring some students experiencing spirited international discussion whereas others are gazing at an empty screen) and lack of purpose (whereby the initial excitement quickly wears off) as the two major limitations that have been reported on by teachers involved in pen pal exchanges (Warschauer 1995a).

Undeniably, yet another potential source of problems preventing educators from trying to establish telecollaborative connections in their classrooms has its roots in administrative, technical and financial dilemmas, inequalities and barriers which most teachers of all kinds are confronted with on a daily basis in the course of their professional careers.

However, as Warschauer (1997) correctly observes, the peril of a language teacher losing control over the students conferencing in real-time on a computer network was metaphorically compared by Batson to riding the wild beast when he concluded: “Students on the network bring to bear their natural pleasure in social interaction; writing becomes more like talk. It seems an unruly beast at first, but... the way to deal with the beast is not to shoot it dead but to jump on its back and attempt to steer it” (Batson 1988).

4. CMC: The comparative study

Though the majority of the above-mentioned descriptive studies displayed some potentially positive characteristics of CMC, virtually all of the researchers were concentrated either on the role of networking in developing writing and the thought processes involved in writing, or merely on the general characteristics of both oral and electronic modes. Moreover, since the potential of CMC in improving students’ ability to express their ideas on paper, in spite of all the possibly hindering features described above, has already been noticed (for instance see

Peyton 1990; St. John & Cash 1995; Tella 1991; 1992a; 1992b; Sullivan & Pratt 1996; Kern 1995), only a few (Chun 1996; partially Kern 1995) researchers ventured to investigate the role of synchronous Computer-Assisted Classroom Discussion (CACD) in increasing students' spoken language proficiency.

Specifically, in her study Chun (1996) established that during the synchronous, electronic debate students displayed the ability to express a greater variety of linguistics functions in different contexts than was the case with the face-to-face discussion. This finding led her to determine the subsequent particular field of further research by remarking that “since these [computer] types of sentences strongly resemble what would be said in a spoken conversation, the hope is that the written competence gained from CACD can gradually be transferred to the students' speaking competence as well” (Chun, 1996: 71).

And this is precisely the question of whether this newly-gained, electronic written proficiency is at all, and possibly – to what extent, transferred to students' oral performance that determined the scope of the comparative study conducted in the computer laboratory in one of the Polish secondary schools.

Therefore, partially inspired by Chun (1996) study, the subsequent section of this paper will present both the procedure and the results of the experiment undertaken by the author in order to deepen our understanding of the processes that foster the potential learners' acquisition of spoken language proficiency in the networked environment.

4.1. Subject Selection

For the purpose of the present study two regular, intermediate classes of 3rd year secondary school students (from V LO in Zielona Gora, Poland) were selected with each class additionally split up into two practice groups for the total of four (E1, E2, C1, C2) units formed (C1 and C2 stand for ‘Control 1’ and ‘Control 2’ groups, whereas E1 and E2 denote ‘Experiment 1’ and ‘Experiment 2’ groups). In the course of the study, groups E1 and E2 visited the networked computer laboratory once a week and held synchronous electronic discussions there whereas groups C1 and C2 were taught on the conventional basis, thus not being exposed to the electronic instruction at all. Basic typing skill was a requirement in both E1 and E2 formations and all the participants conformed with this demand.

The experiment was integrated into the school's curriculum and, though the majority of the participants expressed their willingness to take part in the study, students were formally obliged to attend the classes regularly (critical attendance value was established at the 90% level so the allowances were made for one absence in a total of 10 sessions). All of the

students were Polish, ranging from 18 to 19 years of age. Ten of them were male and 17 female (for gender distribution within groups see Figure 1).

Group E1		Group E2		Group C2	
Subject number	Sex	Subject number	Sex	Subject number	Sex
S1	F	S1	M	S1	F
S2	F	S2	M	S2	F
S3	M	S3	M	S3	F
S4	M	S4	M	S4	M
S5	F	S5	F	S5	F
S6	F	S6	M	S6	F
S7	F	S7	F	S7	F
S8	M	S8	F	S8	M
S9	F	-----	-----	S9	F
-----	-----	-----	-----	S10	F
Total		Total		Total	
Males: 3	Females: 6	Males: 5	Females: 3	Males: 2	Females: 8

Figure 1. Gender distribution within groups

Unfortunately, due to high level of absences among students enrolled in the control group C1 this particular formation had to be ruled out from the experiment and shall not be included in the further description of the study. For similar reasons, the number of subjects in groups E1 and E2 was reduced from 10 to 9 and 8, respectively, whereas group C2 remained intact throughout the study.

4.2 The procedure

The general procedure was as follows: at the start of the study, during separate classes, groups E1, E2 and C2, each consisting of 10 students participated in traditional oral discussions with the teacher. The three sessions (pre-tests) were audio recorded and transcripts were produced and analysed with regard to the taxonomy proposed by van Ek & Trim (1991). The number of language functions used during the debates was calculated for each group separately and transcripts were kept for future reference. For the purpose of the study, in the course of the three-month long experiment, groups E1 and E2 visited the networked computer laboratory once a week and held synchronous electronic discussions there while group C2 was taught by an English teacher on the conventional, coursebook-based, basis. At the end of the study one additional, separate oral group session (post-test) was conducted with each unit, and again discussions were audio recorded, transcripts were coded on the basis of van Ek & Trim's classification and the number of language functions used in each group was summed up. As a

next step, the cumulative results of the orally held meetings were contrasted and evaluated (for the complete experiment schedule see Figure 2).

Date	Group E1	Group E2	Group C2
17.01.2000	Introducing ICQ	-----	-----
20.01.2000	-----	Introducing ICQ	-----
24.01.2000	Oral pre-test	-----	-----
26.01.2000	-----	-----	Oral pre-test
27.01.2000	-----	Oral pre-test	-----
31.01 – 3.02	Winter break	Winter break	Winter break
14.02.2000	Introducing ICQ: Individual chats	-----	-----
17.02.2000	-----	Introducing ICQ: Individual chats	-----
21.02.2000	General chat 1	-----	-----
24.02.2000	-----	General chat 1	-----
28.02.2000	General chat 2	-----	-----
02.03.2000	-----	General chat 2	-----
06.03.2000	Internet chat 1	-----	-----
09.03.2000	-----	Internet chat 1	-----
13.03.2000	Internet chat 2	-----	-----
16.03.2000	-----	Internet chat 2	-----
20.03.2000	Internet chat 3	-----	-----
23.03.2000	-----	Internet chat 3	-----
27.03.2000	Internet chat 4	-----	-----
30.03.2000	-----	Internet chat 4	-----
04.04.2000	Oral post-test	-----	-----
05.04.2000	-----	-----	Oral post-test
06.04.2000	-----	Oral post-test	-----
Total session number:	10	10	2

Figure 2. The experiment schedule

Consequently, the tenability of the claim that some kind of transfer between the learners' electronic and oral production might have occurred, was tested. This hypothesis could be considered to have been substantiated if students from the experiment groups E1 and E2 had displayed the oral ability to express a greater variety of language functions in different contexts after the completion of the three-month long computer program. The claim was tested by employing the two-tailed, non-directional null hypothesis predicting no difference in the subjects' oral performance after the electronic treatment. Subjects' scores were examined at the 0.05 significance level ($p < 0.05$).

4.3 The results

The total scores on language functions for all the three groups have demonstrated, to various degrees, the improvement of subjects' oral proficiency. In the case of the experiment group E2 the progress was the most evident with the subjects upswinging from the total number of language functions (214) uttered in the pre-test to the final score of 302 observed on the post-test (Figure 3).

Group E2				
Subject number	Post-test	Pre-test	Difference (D)	Difference (D) ²
S1	43	39	4	16
S2	47	63	-16	256
S3	35	8	27	729
S4	70	75	-5	25
S5	4	-----	4	16
S6	48	14	34	1156
S7	36	13	23	529
S8	19	2	17	289
n=8 Totals:	Σx=302 $\bar{X}=37.75$	Σx=214 $\bar{X}=26.75$	ΣD=88	ΣD²=3016

Figure 3. Matched *t*-test. Experiment group 2

t value = 1.82 (critical *t* value = 2.306)

Improvement of groups E1 and C2, however, was less conspicuous with group E1 rising from the score of 175 to 258 (Figure 4),

Group E1				
Subject number	Post-test	Pre-test	Difference (D)	Difference (D) ²
S1	4	2	2	4
S2	61	117	-56	3136
S3	22	-----	22	484
S4	65	4	61	3721
S5	29	2	27	729
S6	11	-----	11	121
S7	2	17	-15	225
S8	52	4	48	2304
S9	12	29	-17	289
n=9 Totals:	Σx=258 $\bar{X}=28.66$	Σx=175 $\bar{X}=19.44$	ΣD=83	ΣD²=11013

Figure 4. Matched *t*-test. Experiment group 1

t value = 0.77 (critical *t* value = 2.262)

and group C2 remaining virtually at the same level (score of 204 on pre-test compared to 214 on post-test; Figure 5).

Group C2				
Subject number	Post-test	Pre-test	Difference (D)	Difference (D) ²
S1	36	40	-4	16
S2	-----	-----	0	0
S3	15	15	0	0
S4	23	42	-19	361
S5	9	8	1	1
S6	-----	1	-1	1
S7	56	33	23	529
S8	9	18	-9	81
S9	3	3	0	0
S10	63	44	19	361
n=10	Σx=214	Σx=204		
Totals:	$\bar{X}=21.4$	$\bar{X}=20.4$	ΣD=10	ΣD²=1350

Figure 5. Matched *t*-test. Control group 2

t value = 0.26 (critical *t* value = 2.228)

Though, especially in the case of the experiment groups E1 and E2 (83 and 88 more language functions used after the three-month long treatment, compared to only 10 function improvement of the control group C2) the findings seemed to be more than promising.

Nonetheless, data were additionally checked for significance at $\alpha < 0.05$ in an attempt to reject the non-directional, two-tailed null hypothesis (H_0) and thus find the evidence in support of the alternative hypothesis of difference. Since the two means to be compared in every group came from the same subjects a *matched t-test* technique was used as the appropriate analysis tool suggested for verifying the significance of sets of paired data (Hatch & Farhady 1982; Butler 1985).

The critical *t* value for rejecting the H_0 hypothesis for groups E1, E2 and C2 was estimated at 2.262, 2.306 and 2.228 ratio, respectively (depending on the changing value of the *degrees of freedom*, i.e. the number of subjects enrolled in the study; the critical *t* values presented above were taken from Fisher & Yates 1974).

Nevertheless, the evidence in support of the transfer hypothesis was not found as none of the groups turned out to have a computed *t* value high enough to safely reject the null hypothesis with group E2 being the closest and missing the critical mark by a 0.442 value (for detailed results see Tables 1-3).

Therefore, though the students from the experiment groups E1 and E2 indeed displayed the oral ability to use a greater variety of different linguistic functions after the completion of the three-month long computer program (83 and 88 more language functions used compared to

merely 10 function improvement of the control group C2), any findings of the study should not be seen as statistically significant results but rather considered to indicate trends in the specified direction while still lacking its measure of the essential empirical evidence.

5. Conclusions

Concluding, despite all the possibly hindering features, the potential benefits of computer-mediated interaction seem apparent and certainly capable of changing the face and customs of numerous collaborative language classes. However, as it has been suggested by Warschauer & Kern (2000), the carefully planned research effort, fostered by the easy access to the effective ways of electronic data analysis is demanded in order to help us determine WHAT exactly students are learning in CMC, multicultural environment. The very role of networking in developing writing and the thought processes involved in writing as well as the potential of synchronous CACD to play the role of the 'bridge' between speaking and writing and, consequently, contribute to the development of speaking ability is still unclear (though the above-cited experiment did display certain tendency in this direction). "The simple question to which everybody wants an answer" - Warschauer & Kern (2000: 2) observe – "Does the use of network-based language teaching lead to better language learning? – turns out not to be so simple", and still calls for the carefully planned, well-structured and data-based research effort.

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THE BIGGEST CHALLENGE TO ONLINE LEARNING

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Introduction

The Internet and computers are becoming widespread in all spheres of life, including education. The advent of the Internet era, with its new means of communication facilitating collaboration between groups and individuals all over the world and instant access to all kinds of information, creates new favourable conditions for teaching and learning languages. English teachers need to take part in that Information revolution of today, but in order to do that, they need to be trained properly.

The aim of this paper is to show the current state-of-art of Information and Communication Technology (ICT) training in Poland, both in pre-service and in-service environment. I will try to present various examples of both types of training, together with the results of a survey on attitudes to ICT conducted among students of two Teacher Training Colleges (TTC), as well as some feedback evaluation data provided by participants of two in-service ICT courses conducted. After that, drawing on the evidence collected, I will attempt to make conclusions from the surveys and propose a teacher training framework both for pre-service and in-service institutions. It is believed that the adoption of some nationwide solution to ICT training is needed in order to prepare English teachers for online teaching and to make sure that there is no substantial discrepancy between ICT teacher skills in different regions of Poland.

Online Classroom

Online classroom, in my understanding of the term, is a classroom in which the teacher uses the Internet and computers in order to achieve some teaching goals. The examples of activities used here are e-mail exchanges (Warschauer 1995), using the Web for conducting student research (Egbert & Hanson-Smith, 1999; Kitao & Kitao, 2001; Warschauer & Healey, 1998; Dodge 2000), using grammar practice software for self-study or classroom work (Egbert 2001), activities involving telecollaboration such as interpersonal exchanges, information collection and analysis, and problem solving (Harris 1998), as well as activities which do not

demand telecollaboration such as "Topic Hotlists," "Knowledge Hunts," "Subject Samplers," "Concept Builder," "Insight Reflector" and "WebQuests" (March 2000). In such a classroom, students participate in online lessons (Krajka 2000), that is regular lessons of English with pre-, while- and post-stages, where the Internet is used as a medium of instruction and stimulus for learning instead of a coursebook. The components of such a classroom are the following:

- ◆ teacher
- ◆ students
- ◆ the Internet as the source of materials
- ◆ equipment (computers giving students access to materials and serving as working tools just like a pen and a notebook)
- ◆ task (what students are expected to do when being online).

In this work, I will concentrate on the first element, the teacher, giving reasons why English teachers should become online teachers, then discussing necessary qualities and skills of an online teacher. My discussion will try to combine different viewpoints: that of a practical online teacher and that of a teacher trainer, training teachers in using ICT in their classrooms.

Online Teacher of English

The first problem to be tackled here is why teachers of English should go online with their instruction by incorporating the Internet and computers in their teaching. There are a number of reasons for that, and these are the following:

- ⌘ using computers and Information Technology in teaching and preparing materials is one of the requirements of teachers' professional promotion, as specified in *Karta Nauczyciela* (the act regulating the reform of education and specifying the requirements for each level of teachers' promotion, see *Karta Nauczyciela* 2000)
- ⌘ more and more headmasters expect teachers to be ready to conduct lessons in Internet labs, due to the widespread availability of labs at schools and great demand for teaching with the Internet
- ⌘ computers and the Web are extremely powerful factors motivating students to learn (Kimball 1998)
- ⌘ Internet websites can be extremely effective in supplementing and replacing the coursebook, due to authenticity, recency, variety, choice, novelty and interactivity of Web-based instruction (Krajka 2000)

- ⇒ the Internet offers new, widely accessible and free, ways of communication between students from different countries, such as email, chat, discussion lists, videoconferencing, collaborative website creation (Krajka 2001a, Warshauer 1995, Sierra 1999)
- ⇒ incorporating online instruction allows the teacher to adopt a cross-curricular approach, to prepare students to discuss other subjects in English, which is going to be the requirement of the reformed secondary school-leaving examination, *matura*, from 2002 onwards (Krajka 2001b)

When talking about skills and qualities that an online teacher of English should possess, from my own experience it appears that such a person should have necessary computer skills (mostly file management, Internet browsing, operating email software, basic webpublishing) and should be able to teach them sometimes. Although it is assumed that all the skills necessary for Internet-assisted instruction should be already acquired by students during Information Technology classes, the teacher may sometimes need to do some technical teaching, e.g., showing how to copy a picture from the Web to a word-processor or how to subscribe to a student discussion list. Also, the teacher must be able to solve some incidental technical problems, as in the reality of Polish schools it is not possible to have a technician ready to help in case of connection breakdown or system problems. Generally speaking, the teacher should be as skilled as his students, so that they do not destroy the lesson or embarrass the teacher.

On the other hand, the online teacher should have ample knowledge of the Net and websites, in order to predict which sites would be most useful for particular activities, to allocate proper amount of time to each stage of the lesson, to be fully aware of the benefits and dangers of Internet-assisted learning.

Also, it is crucial that the online teacher should be extremely well-prepared for the lesson, having checked if the sites to be used still work and do not contain offending material, having a clear and detailed plan of the lesson, together with additional off-line tasks in case of slow connection and alternative sites to go to. Finally, the teacher must make sure that the instructions given to students are clear and precise, that students fully understand what to do, and consequently there are no doubts as to the technical nature of tasks.

Online Teacher and Computer Skills

From all the requirements for an online teacher mentioned above, I am going to discuss the aspect of computer skills at this point. It is beyond doubt that the teacher needs to possess computer skills necessary to prepare the lesson, find materials for classroom use, etc. On the

other hand, it is inevitable that the teacher never knows as much about technology and programmes as some students, and it is essential that the teacher be ready to learn from students as well.

As for ICT skills that teachers need to possess, it seems that training teachers can develop along two ways. On the one hand, teachers acquire basic computer skills in most popular applications (file management, word-processing, spreadsheets, databases, presentation software, emailing, searching and retrieving information from the Internet). Of course, it may be argued that not all of these applications are absolutely indispensable to a teacher of English, which is reflected in the survey conducted among 43 students of two TTCs. When asked what ICT classes should comprise, students answered in the following way:

file management: 35%
word-processing: 51%
spreadsheets: 16%
databases: 25%
presentation software: 33%
searching the Internet: 77%
operating email software: 49%
creating websites: 44%

Figure 1. The expectations of the students of Teacher Training Colleges as for computer skills

Thus, it seems that spreadsheets and databases are less likely to be used in future by teachers, while searching the Internet, emailing, word-processing, creating websites need to be included in the ICT classes syllabus.

The second line along which ICT courses need to be organised, both in pre-service and in-service training, is applying technology in teaching English, with such specific topics as teaching language skills with the Internet, planning and running online lessons, using chat and email in language learning, creating computer projects with presentation software on the basis of Internet materials, finding and preparing materials for classroom use, using a class website in teaching, or ELT computer software. Again, TTC students were asked about specific topics here, and the results are as follows:

Internet for teaching language skills: 74%
creating and running online lessons: 56%
using email in teaching: 49%
using chat in teaching: 44%
computer project work: 66%
using the Internet to prepare classroom materials: 76%
using a class website in teaching: 41%
using ELT software: 79%

Figure 2. The expectations of the students of Teacher Training Colleges as for methodology of online teaching.

When we compare the results for the first module (purely computer skills) and the second one (applying technology in teaching English), it is evident that the topics of the second are much more highly evaluated. This demonstrates a great demand for training of this kind among future teachers, and the percentages clearly show that all topics mentioned in the second module should be included in training. Of course, it is impossible to imagine a course consisting of only the practical applications, without any computer skills part, as the level of computer skills of students (though all secondary school students have basic Information Technology classes) will be varied and consequently it might not be possible to conduct a course effectively. Students of two TTCs, when asked about whether they should have a course only in pure computer skills, only in practical applications of technology in teaching or in both of these areas, overwhelmingly chose the last option (86,05% as opposed to 6,98% for either of the first two options). This seems to prove the assumption that both parts are necessary depending on conditions available.

Pre-Service ICT Training

In this section of the paper, I would like to start with presenting the situation as for ICT training and equipment availability in selected TTCs. Then, I will briefly discuss the technical aspects of running a pre-service course. After that, a proposal for ICT training in Teacher Training Colleges will be put forward, supported by the evidence from the student survey.

Teacher Training Colleges (TTCs) are public institutions specialising in training teachers of English. Studies start after the secondary school-leaving exam and last for six semesters. Students graduate with a *licencjat* degree, an equivalent of a B.A., which allows them to teach English in all kinds of schools. Each TTC is a separate entity, though they have academic supervision of English Departments of different universities all over Poland.

TTC Białystok has a self-access computer lab, but most workstations are out-of-date, and only a few are with a good fibreoptic Internet connection. Until 2000 students used to have ICT classes for one semester in the first year (word-processing) and for one semester in the third year (searching the Internet, webpublishing, evaluating online materials). Due to lack of funds, ICT classes are now suspended, and TTC Białystok is waiting for funds to start them again.

In TTC Bydgoszcz, students can use an Internet lab with 15 computers in limited self-access for two hours a week. ICT classes are run for two hours a week for two semesters in the first year, and they encompass word-processing, operating email, basic webpublishing and educational software.

Another TTC to be discussed is Cracow, where there are four workstations to be used by students, including two with Internet access. Due to lack of equipment, there are no classes in ICT, though there are plans to start ICT classes containing basic computer training and elements of CALL in hired labs out of the College.

In TTC Lublin the situation is even worse, as there are only two workstations with Internet access to be used by students, but they need to be shared with the students of the English Department of Maria Curie-Skłodowska University. There are no classes in ICT, and, to my knowledge, no plans for any.

A notable exception among those few Teacher Training Colleges investigated is the one in Przemyśl, where students have at their disposal a computer lab with 12 workstations, fast Internet connection, access to the lab during ICT classes, plus additionally constant self-access on four workstations in a library reading room. Students can also rent some ELT software for onsite use in a reading room. As regards ICT classes, students have two hours a week for two semesters in the second year, and the course includes word-processing, operating email, participating in professional discussion lists, searching the Net and evaluating online materials.

The conclusions to be drawn from the above presentation are the following. The level of equipment availability is varied, and there are some colleges (Lublin, Cracow) which provide students with almost no computer facilities and Internet access. Surprisingly, this is not

related to the size of the city, as Przemyśl is much smaller than Lublin or Cracow. The equipment possessed has the effect on the ICT classes, and if there is no decent computer lab with fast Internet connection, there are no ICT classes either, though, as the example of Cracow shows, it can be amended with out-of-college courses. The next problem is that there are still not enough funds to organise classes, as the example of Białystok shows, and there is no stability in this respect. What is more, there is no organisational provision for ICT classes, and they are organised independently of the course programme approved by the supervising university, which means that there is constant need for funding in this respect (Przemyśl). Finally, there is no nationwide coordination nor approval of the Ministry of National Education, which means that in terms of ICT classes and skills students graduating from Przemyśl or Bydgoszcz TTCs are simply luckier than their colleagues from other towns and have an advantage at the start in their professional life.

It might be interesting to see now whether students of TTCs have low computer and Internet literacy because of that generally bad situation in pre-service teacher training as for equipment and classes. The poll conducted among students also touched that issue: when asked whether they use computers, 76.74% answered positively, either at home, work or college. 51.16% had an email account, but as many as 30% check it less often than once a fortnight. It is not very encouraging, considering the fact that having an email account and checking it regularly is becoming a must in the contemporary world. Only 4.65% have their own website, and only 4.55% were a member of a discussion group, which is disastrously low if we take into account the situation in the USA or China where students are members of discussion lists and in this way they do research for their B.A. or M.A. theses. Internet journals are used by only 35%, which means that because of problems of access and inadequate skills students do not make use of that free and easily accessible source of research articles. 22.73% use email to send files, and a similar percentage (22.50%) use chat to communicate with others. Of course, these figures are relatively low, but if we take into account problems with access to the Internet in the colleges, then they still are something to be glad about. 50% of students use Internet news services, and 65% use WWW to find materials for classroom use, which is much more encouraging.

Of course, relatively low computer literacy as demonstrated above may be due to inadequate training and difficult access to computers in the college, and it seems that a lot should be done so that computers and the Internet can be used as tools in studies, in writing research papers and theses, gathering information via discussion lists, teaming up with other students or

researchers interested in similar problems, doing collaborative research projects with students from other countries.

At this point, a word needs to be said about running pre-service ICT courses. In Teacher Training Colleges, students come to classes every week for two hours, and the instruction is delivered in "pieces." This makes it possible to assign some reading or homework to be submitted before next classes, which is difficult to achieve in in-service training. Also, students are used to reading articles, producing papers, doing research, and this can be exploited by the instructor. The next factor is age: pre-service trainees are relatively young, which means that they are open to new knowledge and quick to learn.

To conclude the section of the paper dealing with ICT training for pre-service institutions (Teacher Training Colleges), some proposal needs to be forwarded on the basis of results of the survey presented above. It seems that students should have ICT classes, for two hours a week for two semesters in the second year, which is the best time as students already know methodology of teaching English, but are not yet occupied with writing diploma theses and serving teacher training practices. Classes should encompass both pure computer skills and practical applications of technology in teaching, though greater emphasis should be devoted to training students in the confident use of the most popular applications such as word-processor, presentation software, email software, Internet browser, webpublishing programme. Students should acquire such skills as browsing the Net, evaluating and retrieving materials, participating in discussion lists, but should also be shown how to use Internet resources such as websites, email or chat in teaching. Finally, they should be given free access to computers, preferably with access to the computer lab in certain hours, all day self-access in a library reading room, where they could also work with ELT computer software borrowed from the library.

In-Service ICT Training

When considering training of already active teachers of English in ICT (in-service training), I will first give the example of the Lublin region and describe in detail two different courses that have been run in the 2000/2001 academic year. Next, I will present the results of evaluation of these courses by teachers and try to draw some conclusions as to the model of in-service ICT training, which will be provided at the end.

As for ICT training in the Lublin region, it needs to be said that the situation is much better than the pre-service one for a number of reasons. First of all, due to the teachers' professional development, there is a great demand for courses of all kinds, and specifically courses in ICT,

since using computers and the Internet is one of the requirements to achieve a higher teachers' position. Secondly, there is some national coordination of courses conducted by the British Council Information and Communication Technology Teacher Education Project, and courses run in different centres in Poland will have the same syllabus and resources for trainers. Also, another important point is that there are different entities organising courses, such as The British Council, regional INSETT Programmes, Local Teacher Education Centres (WODN), local teacher advisors, and private companies. Funding for courses is provided by The British Council, Kuratorium Oświaty or the Ministry of National Education in the form of grants, so trainees do not need to go to much expense.

In the 2000/2001 in the Lublin region there were two regular ICT courses. The first was a grant course "How to Teach English in the 3rd Millennium," where out of 40 hours in all half was devoted to "The Internet and Multimedia in Teaching English" module. The course was funded by Kuratorium Oświaty w Lublinie, run by Local Teacher Education Centre (WODN) and INSETT Programme Lublin, and attended by 60 teachers of junior high school (*gimnazjum*). The organisers of the course did not have much influence on the content, as it was the grant course with content already specified. The first four hours were devoted to basic computer training (operating the Internet browser, searching the Net, operating email), ten hours to the practical applications of technology in teaching (Internet lessons, teaching language skills with the Internet, using the Internet for finding materials for classroom use, creating a class website), and final six hours to ELT computer software (getting to know and evaluating programmes).

In the evaluation of this course, 61.36% of teachers said that the course was long enough, 36.36% that more time was needed for the course. Indeed, twenty hours proved to be too short a period of time for a course like that. 100% acquired new skills, 93.10% will try to apply acquired skills in their teaching in schools and 90.91% would like to participate in further courses of this kind. It needs to be stressed that as many as 93.10% will try to apply the acquired skills in their teaching, which on the one hand proves the usefulness of the course, but on the other indicates the fact that teachers do have conditions to use technology in schools. When evaluating the overall content of the course, 47.73% said that the contents of the course got grade 5, while 45.45% gave grade 6 (all assessed in a six-grade scale, where 1 means the worst while 6 denotes the best). As for specific contents, parts pertaining to the Internet were evaluated better than parts devoted to software. Most probably, this is because teachers realised the great potential of the Internet and the possibilities it offers for lessons, while at the same time they saw the limitations of computer software and its mainly self-study

individual work nature. The computer training part (first 4 hours) was regarded as too short and without enough time for practising new skills, which was a valuable comment, but in the reality of this course, where the syllabus was partly imposed, nothing else could be done.

Using the experience of the course described above, another one was organised by The British Council, INSETT Programme Lublin and Local Teacher Education Centre. This 40-hour course catering both for purely computer skills (20 hours devoted to word-processing, presentation software, Internet browser, email software) and practical applications of technology in teaching (20 hours devoted to Internet lessons, teaching language skills with the Internet, using email, chat, ELT software in teaching, computer project work) was attended by 70 teachers of all kinds of schools from the Lublin region. The first part was conducted in Polish by an Information Technology specialist, while the second one in English by an active secondary school English teacher.

When compared with the previous one, in this course much more time (20 hours) was devoted to training computer skills, in order to make an online teacher as skilled and confident in the use of computers and the Net as possible. Also, the number of hours devoted to ELT software was reduced to two, following the comments after the previous course. New elements were added such as using email or chat in the classroom. The most important addition was using the Internet and presentation software for project work, which is some solution to New Matura 2002 oral part, where for the extended part a student is required to prepare and deliver a presentation on a chosen topic.

The evaluation of the course shows that although the course was twice as long as the previous one, for 65.57% the course was long enough, but for 34.21% it was still too short, which probably proves the point that no number of hours devoted to computer training is enough. Similar numbers of participants (97.37%) acquired new skills and will try to apply acquired skills in their teaching in schools (92.11%). Despite the fact that the course was long and encompassed a number of issues, still 94.74% would like to take part in a further ICT course, which probably creates the need for an "Advanced Net" course for teachers of English. Generally speaking, the first part (computer training) was evaluated lower than the second (applying technology in teaching), which was to be predicted, as active teachers of English were naturally more interested in skills and knowledge immediately applicable in their own classrooms. Specifically, in the first part file management got the lowest score (grade 5 - 49.54%, 6 - 24.32%), while word-processing, presentation software and Internet browsing were highly evaluated as really useful (grade 4 - 25-30%, 5 - 30-37%, 6 - 29-33%). As for the second part, Internet lessons and the Internet for teacher development got the best marks (for

the latter, 6 - 62.46%), email and chat in teaching got also high marks, while the weakest part was ELT software (5 - 36.84%, 6 - 36.84%), which is similar to the comments from the first course.

At this point, a few words must be said about the specific nature of running an in-service course. On the contrary to regular weekly meetings in pre-service training, in-service courses usually come in three-day blocks of 20 hours, with 6 hours on Friday, 8 on Saturday and 6 on Sunday. The courses are much more exhausting both for the trainer and the trainees due to physical fatigue and eye strain. It is impossible to assign any reading for the next session, so each topic needs to be preceded by a short lecture/presentation, after which trainees may work on specific tasks. Also, varied levels of computer skills matter a lot, which was especially a problem in the first course, where there was not much time for purely computer training. The next factor which needs to be mentioned is that in-service trainees are usually older than pre-service students, which means that computer skills are not acquired that fast and more time is needed for repetition and practical exercises. Generally, in in-service training it is difficult to assign some homework to trainees. In both courses trainees had to submit three pieces of homework (an Internet lesson plan, a software review, an outline of a class website) in order to receive the certificate of course completion, though it took up to six months for some trainees to produce them. Despite all these problems, there are also some advantages of in-service trainees: they are active teachers, so they know exactly how to conduct lessons, maintain discipline, plan a lesson, know the faults and limitations of their coursebooks which could be amended with Internet-assisted instruction.

To sum up both courses, it could be said that they do not finish with the end of the training: trainees had to use the acquired skills to produce homework to get certificates, which forced them to practise what they had learnt. Also, a discussion list has been created, where trainees exchange views on technology in teaching after the end of both courses. The best lesson plans and software reviews have been and will be published in *Teaching English with Technology* international electronic journal. What is more, trainees have done online lessons (also for their annual evaluation lessons) and have shared their plans with other teachers via a discussion list. Finally, some trainees have created websites for their English class use and have started keypal exchange projects.

Now, after the discussion of two different courses and teachers' evaluation of them, I would like to come up with a proposal of a model of ICT training for in-service teacher training institutions such as The British Council, INSETT Programmes and Local Teacher Education Centres. It seems that 40 hours is the right amount of time for such courses, divided into two

three-day sessions, with 20 hours devoted to computer training and 20 hours to practical applications of technology in teaching English. The first part could be conducted in Polish by an Information Technology specialist, so that trainees would gain deeper understanding of how programmes work and acquire troubleshooting skills necessary to run an online classroom. The second part should be done in English by an acting English teacher, who could share his own experiences of online learning. As for the content, the first part might focus on the necessary applications (word-processor, presentation software, Internet browser, email software), and not on spreadsheets or databases which are not that indispensable to a teacher of English. Both parts end with assignments required to complete the course, which can be sent by email after the course, and in this way trainees are forced to apply the skills acquired. A website should be created for the course, where there are all reference materials to read, links to follow and where trainees' works are published. Finally, a discussion list is created to keep trainees in touch with each other and the instructor after the course, in order to extend the course and give support to trainees in their online teaching endeavours.

Conclusion

In conclusion, it needs to be stressed that with big funds pumped into equipment, the online teacher is at the moment the biggest obstacle on the road to the online learning of English. Training such teachers is still a challenge, considering the fact that pre-service institutions provide neither ample facilities nor training, while in-service training may be less effective and more exhausting for trainees. Therefore, it seems that a two-step approach seems to be justified, where Teacher Training Colleges could focus on teaching basic computer skills and operating popular applications, with self-access, and students using ICT for research, professional development, writing theses, while in-service institutions would provide courses with computer training if necessary, but focusing more on practical applications of technology. It is hoped that with such a policy training an online teacher of English would no longer be a challenge.

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THEORY-AND-RESEARCH-BASED STUDENT MODELLING IN A CALL SYSTEM

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Abstract

The primary assertion made in this paper is that the design of a CALL system should be based on well-defined pedagogical standards rather than on a programmer's intuition. A set of such standards is proposed, followed by another set of standards derived from the original one. This other set is intended to help designers construe one of the vital modules of an ICALL system, called student model. A design of a student model is outlined, for which the theoretical basis are the standards postulated earlier.

1. Introduction

The first two generations of Computer-Assisted Instruction (CAI) appeared not quite satisfactory from the pedagogical point of view. Tasks that CAI programs contained demanded mostly operational and analytical thinking and, as a result, did not contribute to the growth of the students' intellectual creativity and general humanistic development. A remedy could be the application of Artificial Intelligence (AI) technology, as it could supply computers with the ability to converse with the user, administer intellectually demanding tasks, and even adapt to the learner's personal (cognitive and affective) features (Chwialkowska 1991). This last ability could be achieved only with an advanced STUDENT MODEL, the component of a program collecting information related to each student's learning processes. In the next section, pedagogical issues related to student modelling for Intelligent Computer-Assisted Language Learning (ICALL) are discussed.

2. Pedagogical standards for ICALL and for student modelling

The analysis of pedagogy-related literature devoted to CALL and ICALL reveals that there are no established pedagogical standards for systems or for their particular components, for example, student models (Tarantowicz-Gasiewicz 2001). Such standards would help designers to develop software in full accordance with modern trends in education, associated with humanistic pedagogy (Rogers 1983). The lack of pedagogical standards has resulted in projects of CALL and ICALL systems which are products of the designers' arbitrary decisions based on intuition and practical experience (e.g. Manning 1990). It seems necessary to work out an alternative methodology of developing educational software. Below, one suggestion for such a methodology, employing pedagogical theory and the results of linguistic research, is given (Tarantowicz-Gasiewicz 2001). This methodology allows to create a student model, but it would also be possible to design other components of an ICALL system in an analogous way.

The theory-and-research-based methodology of student modelling for ICALL is as follows:

- (1) Develop a general framework for pedagogical standards for CAI systems.

- (2) Select a particular pedagogical theory on which the system should rely.
- (3) Using the general framework (developed in step 1), produce a set of CAI standards consistent with the theory (chosen in step 2).
- (4) From the set of CAI standards (worked out in step 3) derive a set of standards for a student model.
- (5) Basing on CAI standards (from step 3) and on some self-chosen approach to foreign language teaching, design an ICALL system, as it is necessary as an environment for a student model.
- (6) Relying on pedagogical standards for a student model (put forward in step 4) and on the outline of an ICALL system (developed in step 5), work out the design of a student model for this ICALL system.

In subsequent sections, the six steps will be described.

2.1. Step (1). The framework consists of eight questions, which specify two main problems universal in education: what is the purpose of learning and upbringing, and by what means can this purpose be achieved? The eight questions are:

- (1) What general didactic paradigm (theory) does the designer-evaluator prefer?
- (2) Are the resources included in the design consistent with this paradigm?
- (3) Is the use of resources governed by didactic methods acceptable to this paradigm?
- (4) Are the types of learners' activities approved of by this paradigm?
- (5) Are the resources, methods and activities optimal from the point of view of the methodology of teaching the school subject presented by the program?
- (6) Are the resources, methods and activities optimal from the point of view of traditional didactic principles?
- (7) What is the general goal and the precise goals of learning in the chosen paradigm?
- (8) Are these goals achievable with the means analysed above?

2.2. Step (2). One possible didactic theory on which the system could be based is Wincenty Okon's Theory of Versatile Education (TVE), as it is consistent with the humanistic paradigm (Okon 1967, 1995, Tanas 1997). The main adjustment made to the general framework

(developed in step 1) with regard to TVE is the introduction of four types of didactic resources, methods, and activities: receptive, explorative, emotional and practical. Besides, it is necessary to consider which traditional didactic principles are consistent with TVE (presumably: the principle of systematisation, of effectiveness, of accessibility, of individualisation and socialisation). It must also be stated what didactic goals are achievable with this theory. These are specified by Okon in (Okon 1995).

2.3. Step (3). Considering the principles of TVE and the traditional didactic principles compatible with TVE, the final set of pedagogical parameters for a CAI program will include the following items:

- (1) The program should make use of four types of resources recommended by TVE.[1]
- (2) These resources should enable learners to receive, explore, experience and apply knowledge with the help of four types of methods. ¹
- (3) These methods should be favourable to four routes of learning ₁
- (4) The resources, methods and routes of learning should be consistent with:
 - a. methodology of the teaching of a specific domain taught by the program,
 - b. other didactic principles consistent with TVE,
 - c. general and specific didactic purposes approved of by TVE.

2.4. Step (4). From the parameters prepared for a CAI system in step 3, it is possible to draw the following set of standards related to a student model: (Near each parameter the source has been mentioned, i.e. the number of a corresponding parameter from the set given above.)

- (1) A student model should record the learner's routes of learning based on the four categories of resources and methods. (from parameter 3)
- (2) A student model should model facts and processes that are important from the point of view of the methodology of the teaching of a given school subject. (from parameter 4a)
- (3) A student model should record the learning process in all its stages. (from parameter 4b - the principle of systematisation)
- (4) A student model should collect personal factors influencing the learning effects. (from parameter 4b - the principle of effectiveness)
- (5) A student model should collect personal factors influencing the reception of the program's content. (from parameter 4b - the principle of accessibility)

- (6) A student model should monitor the processes of the learner's individualised and socialised development. (from parameter 4b - the principle of individualisation and socialisation)
- (7) A student model should monitor the learner's approaching the didactic purposes of the program. (from parameter 4c)

2.5. Step (5). It appears that the foreign language methodology best suited to TVE is Communicative Language Teaching (CLT) (Brown 1994, Tarone and Yule 1991). The two approaches are derived from the humanistic tradition and, as such, promote a holistic, versatile development of the learner. The result of applying TVE and CLT to ICALL is a Communicative TVE-based ICALL System (CoTIS) (Tarantowicz-Gasiewicz 2001).

2.6. Step (6). With the pedagogical parameters (established in step 4) and the outline of CoTIS, it is possible to design a student model for this system. As was argued above, the choice of information to be gathered and utilised by the student model is not dictated by some accidental factors, but results from theoretical assumptions made in advance.

3. Characteristics of the student model

The student model collects data about the student's linguistic and educational background and learning needs. It monitors: developing motivation, learning facts, making generalisations, formulating rules, consolidating knowledge, and applying knowledge to practice. It analyses the improvement of communicative competence, considering its three components: grammatical, sociolinguistic and strategic. The student model also monitors the learner's social and personal development, as far as this is relevant to foreign language learning. Besides, the model searches for sources of persistent learning problems, and scrutinises the development of the learner's autonomy, that is, self-reliance in learning. Suggested modelling techniques include cognitive task-tracing and collaborative student-questioning.

4. Conclusion

The student model outlined above has been built in accordance with the view of a learner as promoted in the Theory of Versatile Education and in the Communicative Language Teaching approach. Applying TVE and CLT to student modelling was the consequence of relying on pedagogical standards corresponding to the humanistic tradition in education. The model's compatibility with pedagogical standards is deemed to be its main advantage.

It must be stated that the student model discussed in this paper is a theoretical construct, probably inapplicable at the current stage of educational technology development. The goal of research presented in this paper was to point out possibilities of enhancing student modelling in future, so that student models in CALL systems could perform their important pedagogical function successfully.

Note

1. I.e. receptive, explorative, emotional and practical.

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EDUCATIONAL WEB PAGES – A CHALLENGE FOR THE TEACHER

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Abstract

Creating WWW pages is no longer an exclusive domain of professional programmers. A web-page can be created relatively easily with the use of high-level (or object-) programming tools, or even word processors. This is a great challenge for both educational institutions and individual teachers and educators. There are many examples of TOEFL web-pages. Most of them are created by educational institutions, but many - the so-called “private home pages” - are designed by individual people, often teachers or learners of English. Very many teaching and learning resources can be found on the Web.

The paper discusses web-pages as tools in the hands of individual teachers. The following issues are analyzed:

- the potential of educational web pages,
- teaching and learning resources that can be found on existing web pages,
- some electronic test creation tools,
- promises and challenges of using the Web in language teaching practice.

Introduction

Web-page construction has become a common phenomenon nowadays. The Internet itself used to be an enormous source of information for years. The text mode as well as the unix-based software were not very user-friendly, however, many of us were overwhelmed by the capabilities of the computers connected to the network – mostly by the easiness to access and retrieve information. World Wide Web added a lot more, but it made the work easier first of all. It is much more convenient to browse the net using a graphic interface and user-friendly software. This applies to web-page design too. It is relatively easy to construct one, even for a non-expert, and it may cost nothing to publish a page. There are servers available which offer electronic mailboxes and some disc space for WWW pages totally free of charge. This indeed is a great opportunity for both commercial and non-commercial institutions as well as private users.

Thus, more and more educational web pages come into being. First of all, these are official sites of publishers, editors, schools, and different kinds of institutions dealing with instruction. WWW is a wonderful place for almost costless publicity and advertisement. Institutional pages are usually rich in content. They offer a lot more than detailed information about the firm and its products. Second, more and more educators create their “private” pages[1]. These are usually full of resources and links to other educational sites.

The Potential

It is natural and typical for probably all teachers to use a variety of teaching/learning aids and materials. This refers to many subjects, not only languages, or foreign languages. However, language teachers, especially EFL teachers, are indeed in a comfortable situation. In addition to numerous textbooks and complete English courses, lots of additional resources are available in bookstores: sets of exercises or texts, supplementary readings, audio tapes, pictures, videos, educational games etc.

The case of Poland is not far different. The economic situation in our country had its ups and downs, but English as a teaching subject has always been in a privileged situation when compared with other foreign languages – at least in the case of supplementary materials and teaching/learning aids available on the market. The recent revolution in technology and computer science, especially the phenomena of the Internet and WWW, have strengthened the position of English as an international language. This, of course, influences education. The need or demand for EFL training increases in many countries, Poland including.

Indeed, the *global network* (Internet and WWW) has become a popular means of fast and convenient information exchange. The so-called *surfing* the Internet is nothing else but opening different web pages and browsing them for information. First Internet sites contained text only. WWW brought in graphics, pictures, sound and even video – all of them on line or downloadable. The question is whether educational websites offer such multimedia resources too. Of course they do. I will present some links to such pages later on in the article. I would like to concentrate on their content first.

We can provide different typologies of kinds of educational web pages. Let us here keep the division into those *institutional* and *private* ones. The former are usually complex linguistic services offering a wide range of: sets of materials (texts, tests, exercises), interesting articles dealing with theory and practice of language learning and teaching, links to literature, and electronic links to other educational web pages. Some of those websites offer ready-to-use computer programs which we can download directly to our hard discs.

The latter, *private* pages, are usually formed by individual people – researchers, scholars, academic staff and school teachers too. As it was said above, *private* pages or *homepages* are not necessarily of *personal* character. On the contrary, many of them look quite professional. Many also offer high-standard teaching and learning resources.

It is necessary to point out that teaching/learning materials are available on the Web in two formats: as traditional printed matter and electronic resources. The former represents different

texts or tests to be downloaded and then printed on paper. The student thus receives a traditional form of exercise or test. The latter are computer exercises. These are of two kinds: (1) to be used on line – the user solves the exercises directly on the web page, and (2) to be downloaded to the user's computer. Downloadable resources are in many cases written in the HTML language or in JAVA Script. Most recent web browsers (*Microsoft Internet Explorer*, *Netscape Navigator* etc.) open HTML files and files containing JAVA Script. There should be no problem to run such applications on home computers or PCs in the classroom. The advantage of such resources is obvious. They are often interactive exercises which can both facilitate learning and make it more attractive.

The Content

Let us now have a closer look at the resources available on educational web pages. They can be divided into: textual and audio-visual materials, sets of exercises and tests, tools for test creation and computer programs for learning English. Additionally, some language courses will be announced. Each category will be discussed shortly, and some links will be given.

Textual and audio-visual materials

These are probably the most commonly published teaching aids: readings at different levels of difficulty. Sometimes they are supported by additional exercises: comprehension, vocabulary, grammar and others. Some of them contain graphics and pictures. They either merely illustrate the text, or form separate graphics-based materials: presentation boards, cartoons, picture games and others. The teacher can either download the materials as files, or copy them directly from the screen and paste into the word processor. Then they can be printed out and distributed among students. Here we actually deal with traditional aids, though distributed electronically.

Many pages offer audio recordings and video clips. They are usually short dialogs or monologs. They might have scripts attached, so that the teacher can download both the picture (sound) and text. Sometimes the visuals are available only on line. It is impossible then to download anything. The only way to work with those materials is directly on the page. It is not a problem if the school provides access to the Internet at a reasonable speed. However, it might be an obstacle when slow modems are used, which is the case in most Polish schools.

Hyper-materials are another form of educational electronic aids. Here, texts or multi-texts are bookmarked, linked and hyperlinked. The links refer to specific parts of the same document,

other documents, or external objects like graphic files, audio files, videos, or even tables and charts. Hypertexts, unlike other electronic materials, are usually to be used on line.

Where to look for textual and audio-visual materials on the Web? They can be found on pages referred to as *Resources* or homepages of several EFL/ESL journals. The latter offer much more than sets of materials. One can find information about conferences, textbooks and exams, latest issues of traditional (non-electronic) materials, lots of teachware and many useful links.

Here are a few examples of each category:

Resources:

- ***Agora Language Marketplace***, <http://www.agoralang.com/>

A site to read about language laboratories, download learning/teaching materials, take part in a discussion on current issues of education with technology. There is a directory of educational materials publishers - a database containing hundreds (!) of entries.

- ***Teaching Indigenous Languages***, <http://www.net-language.de/Default.asp?news=264>

The Teaching Indigenous Languages web site is a collection of essays, articles and web links on how to teach indigenous languages and keep lesser used languages alive.

- ***Hundreds of Jokes for the Classroom***,
<http://www.net-language.de/Default.asp?news=193>

Lighten up your English lessons with jokes

Journals:

- ***The Internet TESL Journal***, <http://www.aitech.ac.jp/~iteslj/>

A monthly (on-line) journal that includes articles, research papers, lessons plans, classroom handouts and teaching ideas on ELT.

- ***Exchange***, <http://deil.lang.uiuc.edu/exchange/>

Exchange publishes writings of non-native English speakers from all over the world, and provides English self-study materials. ***Some parts***: ~Cookbook (with recipes, food stories etc.), ~World Cultures, ~Essays and Stories, ~Pen Pals, ~Class Projects.

Computer exercises and tests

Electronic resources that can be found on the Web are divided into raw materials and complete computer programs. Raw materials are separate exercises or tests that need

appropriate software to be run on our home computers. Their formats can vary. The table below lists a few examples:

format	dedicated software
html, dhtml	most modern web browsers
flash	FLASH software (files can be exported to self-executables)
java script	most modern web browsers

Many .html files have java applets embedded into the code. This does not change anything for the user. Such files can be run on web browsers as well as the “pure” html code.

Raw exercises often come in groups or sets. One can find lots of different types of tasks: multiple choice, filling blanks, matching, indicating (click the mouse on an object or part of picture), cloze, dialog construction and others. As we can see, most commonly used exercise types are available on the Web. In many cases the whole work is done online and the user is graded by the remote computer. Sometimes the exercises are downloadable.

Complete computer programs are available on the Web, too. Not all of them are free of charge. A general distinction in this matter goes as follows:

- commercial software – the user purchases the program just like in a shop, but the shipment goes via the Web;
- shareware programs – the user downloads the program and can use its limited version. The limitation usually goes twofold: there is a time limitation (the program stops working after a certain period of time), or some functions of the program are blocked. After the user pays a requested amount of money, the author sends back a special key code which unblocks the functions or/and eliminates the time limitation;
- freeware programs – they are totally free of charge and can be distributed freely, unless for commercial use.

The table below presents a few links to pages containing exercises, tests and/or full programs. It is worth mentioning that some *Resource* pages additionally offer downloadable tools which enable to construct such exercises and tests. The tools will be discussed in the next part of the paper.

❖ *NetGrammar*, <http://busboy.sped.ukans.edu/~alleng/netgrammar>, by Allen Quesada from University of Kansas.

NetGrammar provides extensive grammar practice (15 units) through a great variety of reading, writing and listening activities. It is suitable for self-directed learning of grammar and/or as an extension to regular classwork at an Intermediate level of proficiency.

❖ **Charles Kelly** advertises his quizzes on the Web at: <http://www.aitech.ac.jp/~itesls/c/r.cgi/quiz>

This is a quiz that is different each time you take it. Random numbers are used in both the Perl script and the JavaScript.

❖ Some text rebuilding exercises, or cloze-tests, can be found at <http://www.stir.ac.uk/celt/Eclipse/index.htm> authored by **John Higgins** from University of Stirling, UK.

The texts/stories/tests are grouped into 3 categories:

- Elementary stories,
- Technical texts and
- Extracts from literature.

You are presented a text on the computer screen and you just fill the blanks on line. The properly guessed words appear in the text body immediately.

English Courses

Complete language courses can be found on the Web, too. Let us not discuss virtual universities now, because this is something different. I would like to give a few examples of independent EFL courses on line. Some of them are free of charge, and the user has to register only. Others are commercial and require a fee.

There are courses of different kinds according to:

- purpose – general courses, specialized, thematical;
- level of linguistic competence – elementary, intermediate and advanced;
- time – short-term and long-term studies.

Although the number of course pages is growing, still there are few of them when compared with *Resource* pages. The reason is obvious. It is a serious undertaking to develop a complete on-line course – the curriculum; timetable; software, hardware and teachware; grading system – all the things that constitute the infrastructure of a virtual school.

Here are two examples of course pages. Each of them contains links to other educational web pages. Some of the links direct to other language courses.

- <http://www.vhs21.ac.at/english-business/>

Language Department, Verband Wiener Volksbildung, Hollergasse 22, A - 1150 Wien, Austria

Business English Communication course including New Media.

Target Group: Intermediate learners of English, people re-entering the job market, computer skills are required (Windows and Internet)

- <http://www.comenius.com/index.html>

A comprehensive site with lots of resources and materials for both teachers and learners, including courses and on-line education.

Exercise Creation Tools

These can also be divided into two according to the form of the output exercise: traditional and electronic. There are tools on the Web which enable the user to compose paper tests, and, again, the user either designs tests online and downloads the output file to be printed, or downloads the whole tool and designs a test offline.

Electronic exercise creation tools have a similar division. The software is downloadable or the user designs the whole test remotely on the web page. Exercise types can be different depending on the software. I personally recommend the *Hot Potatoes* site (address below). It offers probably all the types listed in the previous part of the paper plus some more.

A great advantage of web tools for test creation (*Hot Potatoes* among them) is that they are capable of saving the output files in the html format. This enables the teacher not only to download the test and use it in class (a regular web browser is necessary), but also to upload the file and publish it on a private page. The tests, exercises or other materials are then available practically to the whole world. Well, they can be, but do not have to be. Teachers publish their materials:

- to share with other teachers,
- for anonymous learners to check their knowledge or competence,
- for the teacher's students to fulfill specific tasks.

The last point does not have to refer to distant learning. This is what I actually do with my *local* students from time to time. After certain issues have been discussed in class, I sometimes put some additional exercises on my homepage. The students can access the

exercises any time from any computer inside or outside the university. Their test results can be saved in a local database, or emailed to my address. They find this practice very convenient.

- *Hot Potatoes*, <http://web.uvic.ca/hrd/halfbaked/>, the University of Victoria Language Centre

Looking for on-line and downloadable software for TOEFL? This is a great site to visit. You will find there quizzes, on-line tests, problem-solving activities, and different software to download and use in your classroom.

- **Net-Language site** allows you to compose your own quizzes and place them on the Web. Actually, that site offers much more.

Make Your Own Puzzles! <http://www.net-language.de/Default.asp?news=171>

The puzzle maker web site was recently acquired and expanded by the Discovery Channel. It is now even easier for you to create a wide variety of puzzles for your students out of your own vocabulary list.

The two cited addresses are just a fraction of what can be found on the Web. The scope of this paper does not allow to give many more examples. Please, feel free to visit my page: <http://main.amu.edu.pl/~topol/> where you can find lots of links to different educational web pages – journals, resources, exercising, courses, software, references, Web CALL, and many others.

Challenge and Opportunity

Using modern technology in language teaching requires some technical knowledge of computers. In the case of many multimedia encyclopedias and other user friendly software it is enough to know how to start the computer and run the program. The navigation in most multimedia programs is very simple and clear. The user just wanders through the menus and selects desired functions. It is a little different with web resources where basics of the Internet and WWW are necessary.

It might be challenging for a computer novice to learn how to deal with the Internet and Web software. However, after one gains some basic knowledge and skill, opportunities of an unheard-of scale open. Educational journals publish on the Web. The user can contact an educational institution individually and browse its resources directly from home. Crucial linguistic and methodological issues are discussed. Recent articles on theory and practice of language learning can be found. Scholars publish research results. Teachers exchange their

ideas and experiences. Finally, unlimited teaching and learning resources wait out there on the Web: extracts from literature, educational texts, exercises and tests, pictures, audio and video files, teaching guides and handbooks, and a lot more.

The teacher can integrate Internet/WWW activities in teaching practice in many ways. Downloadable files enrich the teacher's collection of teaching materials. The materials can be used in class or published on the teacher's private Web page. They can be used in group work or as individual tasks for students to do in class and/or at home. The teacher can direct the students to a given Web page and have them work with the resources online. There is a number of teaching strategies based on Web resources. Accomplishing them requires some time and effort, but it is worth trying in my opinion.

Note

1. *Private page* is a commonly used term in computer science. Its content can be very different, not necessarily touching "private" issues. The adjective only means that the page belongs to a "private" person.