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CALL SOFTWARE – EXPERIMENTAL STUDY

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Contents

Introduction

Modern technology has supplied language teachers with a multitude of possible manners in which its components, especially computers, may be applied to aid the learning process of students. Computer Assisted Language Learning (CALL), which is such an approach to the applications of technology within education, is a development which can provide many advantages to a teacher. When used in a language classroom, it presents additional tools and methods and increases the efficiency of the teacher.

It is the goal of this work to prove that CALL software can be successfully used in language classrooms, instead of the more traditionally used methods. To be precise, the thesis sets out to prove that the effectiveness of language learners aided by CALL software is at least at a comparable or higher level of efficiency than learners without CALL support on their side. The document attempts to defend this claim by supplying sufficient experimental data through research.

The thesis is composed of three chapters, the first of which describes Computer Assisted Language Learning, defining the approach, outlining its history and its current state of development.

The second chapter provides a look into different categories and typologies of educational software, describes some ways of evaluating CALL software and characterizes some noteworthy examples of modern computer programs or suites dedicated to CALL, complete with an evaluation by the means of the presented methods and typologies.

Finally, the third chapter presents the experiment conducted with the use of some members of software described in the previous chapter. The experiment compares results achieved on tests by two groups assisted by educational software and a control group

using traditional methods. The experiment is conducted in a typical school setting, with students practicing materials provided during presentations by the teacher, by using CALL or other approaches. The experiment aims to prove that CALL software can be successfully used in place of the other methods.

Certainly, the work does not exhaust all the aspects of Computer Assisted Language Learning and its use in the classroom setting or its efficiency, as there are many more programs than the ones presented within the bounds of this thesis, just as there many ways of software evaluation or efficiency testing. The approach of CALL, being a broad subject, full of possibilities, is therefore open to a further and more thorough exploration than the one featured here. Nonetheless it is believed that this thesis contributes to the development of CALL by providing a reliable proof of its effectiveness.

Chapter One

Definition and History of CALL

Computer Assisted Language Learning (CALL) and Computer Assisted Language Instruction may be understood as approaches characterized by the use of computer hardware's and software's capabilities in the language learning process. Nowadays, it is especially conotated with the use of multimedia and Internet based applications in language learning. Computer Assisted Language Learning aids both the teacher and their students. The computer may be utilized by a language teacher to enable a more diversified set of lessons or allowing for more student practice time during a lesson unit. Otherwise the computer may also be of use to an individual student in order to acquire an additional possibility to continue the language learning process without the supervision of an instructor. The approach has continued to develop throughout the years and has become widely spread and recognized among a large number of modern language teachers.

This chapter introduces Computer Assisted Language Learning, its history and specifics.

Specifically, the first section presents the theories behind the approach. The second section sets out to describe existing classification systems of computer educational software. Finally, the third section presents the history of the use of computers in language teaching and language learning focusing on different techniques and types of educational software emerging with the flow of time.

1.1 What is Computer Assisted Language Learning

Computer Assisted Language Learning and Computer Assisted Language Instruction intend to apply the computer in the learning process to provide the teacher with an additional learning enhancing tool. This section is dedicated to the explanation and definition of the term, and the description of a set of attempts at classification of CALL.

1.1.1 Origins of the term CALL

The term Computer Assisted Language Learning emerged in the 1980s and originated from the earlier used term of Computer Assisted Language Instruction. As Graham Davies (IS5) states, the reason for this change was the close association of CALI and the outdated teacher-centred approach, which drew heavily on behaviourism rather than the currently developing learner-centred approach. While CALI was considered the approach entailing "repetitive language drills" and was "referred to as 'drill and practice'" (Warschauer, 1996:3), CALL widened its scope, embracing the communicative approach and a range of new technologies Graham Davies (IS5). By the end of the 1980s, a new term was created, which is now considered an alternative to CALL, and which was felt to describe the activities and issues connected with CALL in a clearer and more detailed fashion. The term TELL (the abbreviation standing for Technology Enhanced Language Learning) was adopted by some institutions including the TELL Consortium of University of Hull and the TELL&CALL journal from Austria. Brown (1988:6) explains the term writing,

> Learning a foreign language can enrich the education of every pupil socially and intellectually and be vocationally relevant. The new technology should form an integral part of a modern language department's overall teaching strategy. By these means, to coin a communicative-sounding acronym, TELL (Technology Enhanced Language Learning) can help produce telling results in language performance both in school and in the wider world. It therefore has a place in every modern language department.

On the other hand, according to Bax (2003:23), CALL should not be distinguished among approaches but instead become a natural part of teaching, therefore not necessitating a name of its own. He writes,

> Normalisation is therefore the stage when a technology is invisible, hardly even recognised as a technology, taken for granted in everyday life. CALL has not reached this stage, as evidenced by the use of the very acronym 'CALL' — we do not speak of PALL (Pen Assisted Language Learning) or of BALL (Book Assisted Language Learning) because those two technologies are completely integrated into education, but CALL has not yet reached that normalised stage. In other words, one criterion of CALL's successful integration into language learning will be that it ceases to exist as a separate concept and field for discussion. CALL practitioners should be aiming at their own extinction.

1.1.2 Defining Computer Assisted Language Learning

Graham Davies (IS4) presents a definition of CALL, which, as he himself admits after presenting it, is not thorough, but instead describes a popular view of the matter,

> Computer Assisted Language Learning (CALL) is often perceived, somewhat narrowly, as an approach to language teaching and learning in which the computer is used as an aid to the presentation, reinforcement and assessment of material to be learned, usually including a substantial interactive element.

However Levy (1997:1) defines CALL in the following way, "Computer Assisted Language Learning (CALL) may be defined as 'the search for and study of applications of the computer in language teaching and learning'."

This general definition does not attempt to define any activities included in the CALL approach and thus allows for many variations within the specifics of the CALL approach. Levy's definition is widely acknowledged and endorsed by international associations including European Association for Computer-Assisted Language Learning (EUROCALL), the Computer Assisted Language Instruction Consortium (CALICO), Information and Communications Technology For Teachers (ICT4L), and The International Association for Language Learning Technology (IALLT). Therefore, CALL, as defined by Levy (1997:1), does not only require the practitioner of the

approach to use the computer to provide a student with information or testing them in a more intricate testing system – it instead promotes research in the field of computer utilisation in the learning process as well as studying if the given results are satisfying.

1.2 History of Computer Assisted Language Learning

Since the first conception of Computer Assisted Language Learning a considerable development has occurred within the field. The development of CALL is tightly connected with the development of computer hardware and software, limiting or providing new capabilities for practitioners of CALL. This section intends to describe briefly the beginnings and history of CALL and to present certain typologies of CALL.

1.2.1 Historical Outline

The first applications of CALL on big, expensive and cumbersome mainframe computers can be dated back to the 1960s. According to Spanou (IS6), the most renown of these early CALL systems are the Stanford Project concipated at the University of Stanford in the 1950s, constructed in the 1960s and PLATO built at University of Illinois in year 1960. Another ground breaking system was a system built in the 1970s at Brigham Young University called TICCIT, which used television sets and telephones instead of terminals to communicate with individual students.

With the obsolescence of mainframe computers and the emergence of personal units a wider audience could benefit from Computer Assisted Language Learning. (IS6) comments this period of development writing,

> Early CALL favoured an approach that drew heavily on practices associated with programmed instruction. This was reflected in the term Computer Assisted Language Instruction (CALI), which originated in the USA and was in common use until the early 1980s, when CALL became the dominant term. There was initially a lack of imagination and skill on the part of programmers, a situation that was rectified to a considerable extent by the publication of an influential seminal work by Higgins & Johns, which contained

numerous examples of alternative approaches to CALL.

During the rise in popularity of the communicative approach in the 1980s, CALL was tuned to adjust to the change as well as to incorporate new technological advancements. Simultaneously, a myriad of software appeared in the commercial market and became easily available. These applications increasingly included a high quality of sound and video, which became available on all machines during the 1990s.

Another turn in the history of CALL was the increasing popularity of the World Wide Web, available from the year 1992 which led to an ability to contact actual speakers of the learned language or other students (Warschauer, 1996:9).

Scholars like Warschauer, Levy and Bax attempt to divide the history of CALL into distinct periods or phases, explaining the different directions of development driving the practitioners of the approach in a given period. These periods are also usually affected by the available technology at a given time (Warschauer, 1996:6). However, Bax (2003:20) argues that these divisions should be referred to as "approaches" which just "coincide with general historical periods", because even their authors agree that, as Warschauer and Healey (1998:59) explain, "The three stages (...) do not fall into neatly contained timelines. As each new stage has emerged, previous stages continue."

1.2.2 Phases of CALL

The history of CALL as presented by Warschauer (1996:3) divides the entire period of development of the approach into three distinct phases: Behaviouristic *CALL* (later referred to as *Structural CALL*), *Communicative CALL* and *Integrative CALL*. The development and existence of these phases was highly dependant on the current technology, paradigm of teaching languages as well as the general view of the language.

1.2.2.1 Structural (Behaviouristic) CALL

The first approach to CALL present from the 1950s in a form of concept can be easily and rather exactly depicted with the phrase "drill and practice" (Warschauer, 1996:1). Warschauer (1996:5) also mentions that the applications of this approach included software based on the model of *computer as tutor* (Taylor, 1980) and concentrated on implementing the behaviourist theories of learning which dominated language learning theories of those times. The computer's role therefore was to deliver instruction to the student and conduct language practice in the form of drills. Another characteristic of the period was that "the computer was viewed as a mechanical tutor which never grew tired or judgemental and allowed students to work at an individual pace" (Warschauer & Healey, 1998:57).

The approach was designed and implemented in the 1960s during the time of large mainframe computers and slowly drifted towards smaller Personal Computer units by the end of the next decade. The particular design of applications for mainframe prevailed and can be visible on the example of PLATO which consists of a central computer and terminals featuring extensive drills, grammatical explanations, and translation tests at various intervals (Ahmad, Corbett, Rogers, & Sussex, 1985).

As regards the evolution of structural CALL into a new approach, Warschauer (1996:4) writes,

> In the late 1970s and early 1980s, behaviouristic CALL was undermined by two important factors. First, behaviouristic approaches to language learning had been rejected at both the theoretical and the pedagogical level. Secondly, the introduction of the microcomputer allowed a whole new range of possibilities. The stage was set for a new phase of CALL.

The withdrawal of CALL practitioners from structural CALL was partly due to new possibilities presented by the ever developing technology and to the rejection of popular approach to language learning did not however lead to complete abandonment of the structural CALL, and in the words of Warschauer (1996:3), "the rationale behind drill

and practice was not totally spurious, which explains in part the fact that CALL drills are still used today".

1.2.2.2 Communicative CALL

As stated by Warschauer (1996:4), it was John Underwood, who in 1984 proposed a series of "Premises for 'Communicative' CALL" (Underwood, 1984:52), thus creating a new approach to CALL in the late 1970s and into the 1980s. These premises include:

- focusing more on using forms rather than on the forms themselves;
- teaching grammar implicitly rather than explicitly;
- allowing and encouraging students to generate original utterances rather than just manipulating prefabricated language;
- not judging or evaluating everything the students nor rewarding them with congratulatory messages, lights, or bells;
- avoiding telling students they are wrong and is flexible to a variety of student responses;
- using the target language exclusively and creating an environment in which using the target language feels natural, both on and off the screen;
- never trying to do anything that a book can do just as well.

Bax (2003:16) contradicted the premises pointing out that,

> Although the list includes aspects which are certainly part of CLT, and has a general communicative 'flavour', without the central features of human communication and interaction it would be difficult to term this 'communicative CALL' in any useful sense.

Still Warschauer (1996:5) elaborates on the direction that CALL took during this period by saying that new models of computer usage were implemented, such as,

- *Computer as a tutor* (Taylor, 1980) model was still widely used, though the emphasis was put on skill-practice exercises rather than the drill format.
- *Computer as a workhorse* (Taylor, 1980) or computer as tool model involved the use of tools that were not specifically created with the purpose of language learning but rather the already present tools such as digital dictionaries, word processors, spelling and grammar checkers, desktop publishing programs, and concordancers should aid the learner in understanding the language.
- Lastly the third model, *computer as stimulus* (Taylor, 1980) involved the use of applications to initiate communication among students. Again, instead of specially designed language learning tools other applications were used, including games of different kinds.

These models do not form an absolute distinction and can be combined to create a composite effect. As an example of that, a typical workhorse program like a word processor can be used to initiate a discussion among students thus rendering it a part of the computer as stimulus model.

By the end of the 1980s the approach received a considerable amount of criticism (Warschauer, 1996:5-6). It was seen as if CALL was failing to fulfil its potential and the computer was being used in an *ad hoc* and detached way, which meant that it did not contribute to the marrow of teaching, but served as a marginal device.

The criticism of CALL allowed for reassessment of the communicative approach and with the coming of new technology and mindset educators sought for ways to create more advanced, integrated uses of the computer (Warschauer 1996:6).

1.2.2.3 Integrative CALL

As stated by Warschauer and Healey (1998:64), two new technological advancements provided for the possibility of creating a new CALL approach, namely the rapid development of computer multimedia and the availability of the Internet. Multimedia packages enabled the combination of reading, writing, speaking and listening into a single activity, which was furthermore easily controlled by the student. For the first time in history of CALL the student was also able to receive high quality images and sounds through their computers.

Internet access has proven to be advantageous in the ways of enabling students actual communication with other students or native speakers around the world, using either synchronous communication devices, like chatrooms or on-line communicators, or asynchronous ones such as the e-mail. The ability to provide web searches and other student oriented network activities has also changed the face of CALL.

According to Warschauer (1996:7), CALL today is in this very stage and keeps developing, the supposed course for the future being Intelligent CALL, where for example a program,

> should ideally be able to understand a user's *spoken* input and evaluate it not just for correctness but also or *appropriateness*. It should be able to diagnose a student's problems with pronunciation, syntax, or usage and then intelligently decide among a range of options (e.g. repeating, paraphrasing, slowing down, correcting, or directing the student to background explanations) Warschauer (1996:7).

Table 1.1 summarizes development of CALL,

Stage	1970s-1980s: Structural CALL	1980s-1990s: Communicative CALL	21st Century: Integrative CALL
Technology	Mainframe	PCs	Multimedia and Internet
English-Teaching Paradigm	Grammar-Translation & Audio-Lingual	Communicate Language Teaching	Content-Based, ESP/EAP
View of Language	Structural (a formal structural system)	Cognitive (a mentally-constructed system)	Socio-cognitive (developed in social interaction)
Principal Use of Computers	Drill and Practice	Communicative Exercises	Authentic Discourse
Principal Objective	Accuracy	And Fluency	And Agency

Table 1.1. Phases of CALL according to Warschauer (2000:65).

1.2.3 Approaches to CALL

As mentioned before, Bax (2003:15-23) critically examines and reassesses the history of CALL and presents a different division of the period of time when CALL was developing as an approach. He proposes three new categories: *Restricted CALL*, *Open CALL* and *Integrated CALL*. He insists on the term of approach to be used instead of the term phase as used by Warschauer (1996).

1.2.3.1 Restricted CALL

The term 'Restricted' explains the underlying theory of learning and the actual software and activity types in use at the time, to the teachers' role, to the feedback

offered to students and to other dimensions. Restricted CALL bears a close resemblance to Behaviouristic CALL as known from Warschauer (1996:3-4), and as Bax (2003:16) explains, the term itself is just more comprehensive and fitting.

1.2.3.2 Open CALL

Bax (2003:22-23) writes,

> In the case of Open CALL, we can see that from around 1980 there was a gradual awareness that previous approaches had indeed been restricted, and that new approaches were needed. In this sense, attitudes to using computers were more open (as can be seen from Underwood's list presented earlier) and were certainly becoming more humanistic (cf. Stevens, 1992).

But according with Bax (2003:23), for computer communication to resemble a realistic one in the spirit of CLT there were many technological developments to be made, and it is only in the new millennium that CALL has fully or at least almost completely grasped the Open attitude in CALL.

Yet it is important to note as Bax (2003:23) mentions that, "much software produced today is still of a relatively restricted type" and "each institution and classroom may also exhibit certain restricted and even integrated features" leading to a conclusion that the need for Restricted type of CALL has not yet ceased and is still developed in parallel to the Open approach.

1.2.3.3 Integrative CALL

In accordance to Bax (2003:23), the approach of Integrative CALL is a future aim for CALL practitioners. This approach intends CALL to become *normalized* meaning that computer technology will become unnoticed as much as a pen and books are during everyday classroom usage. Bax (2003:23) summarizes this opinion, saying,

> CALL has not reached this stage, as evidenced by the use of the very acronym 'CALL'—we do not speak of PALL (Pen Assisted Language Learning) or of BALL (Book Assisted

> Language Learning) because those two technologies are completely integrated into education, but CALL has not yet reached that normalised stage. In other words, one criterion of CALL's successful integration into language learning will be that it ceases to exist as a separate concept and field for discussion. CALL practitioners should be aiming at their own extinction.

It is therefore necessary for teachers of language to apply technology into their scholarly activities in order to make them common and with the development of technology and miniaturization technology will enter the classrooms and become commonplace. This vision of CALL is not yet achieved and will not be for some time.

1.3 Conclusion

The chapter deals with the definition, history and division of CALL. Table 1.2 summarizes the division of CALL into approaches and its main characteristics as proposed by Bax (2003:21).

Content	Type of task	Type of student activity	Type of feedback	Teacher roles	Teacher attitudes	Position in curriculum	Position in lesson	Physical position of computer
Restricted CALL								
Language system	Closed drills Quizzes	Text reconstruction Answering closed questions Minimal interaction with other students	Correct / incorrect	Monitor	Exaggerated fear and / or awe	Not integrated into syllabus - optional extra	Whole CALL lesson	Separate computer lab
Open CALL								
System and skills	Simulations Games CMC	Interacting with the computer Occasional interaction with other students	Focus on linguistic skills development Open, flexible	Monitor / facilitator	Exaggerated fear and / or awe	Toy Not integrated into syllabus - optional extra Technology precedes syllabus and learner needs	Whole CALL lesson	Separate lab - perhaps devoted to languages
Integrated CALL								
Integrated language skills work Mixed skills and system	CMC WP e-mail Any, as appropriate to the immediate needs	Frequent interaction with other students Some interaction with computer through the lesson	Interpreting, evaluating, commenting, stimulating thought	Facilitator Manager	Normal part of teaching - normalised	Tool for learning Normalised integrated into syllabus, adapted to learners' needs *Analysis of needs and context precedes decisions about technology*	Smaller part of every lesson	In every classroom, on every desk, in every bag

Table 1.2. Approaches to CALL according to Bax (2003:21).

Chapter Two

Educational Software

This chapter describes educational software which is one of many possible ways to implement CALL in language classrooms, which specifically involves use of sets of programs designed with the intention of being applied to language learning.

The first section presents different types of educational software and exercises it may consist of. The second section sets out to describe methods to evaluation of software systems. The final section presents different software products available on the market and attempts to fit them into categories described in the first and second section.

2.1 Typology of CALL

As explained by Davies (IS5), attempts at classification of CALL applications have been made since the 1980s, resulting in the creation of numerous propositions of definitive CALL software typologies. One of them is presented in Section 1.2.2 according to phases of CALL development.

2.1.1 Exercise oriented typology

Thanks to the effort of Davies and Higgins (1985, after Davies:IS5) a classification of software has been compiled, which identifies a piece of software as belonging to a class by an inspection of activities used in educational programs. Davies' and Higgins' (1985, after Davies:IS5) typology consist of,

- Gap-filling exercises: *GapKit* (Camsoft), *Gapmaster* (Wida),
- Multiple-choice exercises: *Choicemaster* (Wida),
- Free-format exercises: *CLEF* (Camsoft), *Testmaster* (Wida),
- Tutorial programs: *CLEF* (Camsoft),
- Re-ordering: *Word Sequencing* (ESM and Camsoft), *Textsalad* (Camsoft),
- Simulations: *Granville* (Cambridge University Press), *Montevidisco* videodisc,
- Text mazes or Action mazes: *Mazes,*
- Adventures: *French on the Run* (Gabriel Jacobs, Silversoft),
- Games: *Vocab* (Wida),
- Cloze: *Clozewrite* (Camsoft), *Clozemaster* (Wida),
- Text manipulation: *Fun With Texts*(Camsoft), *Storyboard* (Wida),
- Exploratory programs: *S-Ending,*
- Writing – word-processing: *Word* (Microsoft).

2.1.2 Skill oriented typology

A different approach to the classification of language learning software is presented by Jones and Fortescue (1987, after Davies:IS5), which, instead of taking into account the applied types of exercises, determine the type of software by the practised language skill. Only custom tailored programs, where the target skill can be defined no sooner than after a configuration by the the teacher elude this definition. Such an approach allows pointing out to the following program types,

- Grammar: *Matchmaster*, *Choicemaster*, *Testmaster* (Wida),
- Vocabulary: *Vocab* (Wida),

- Reading skills: *Storyboard* (Wida),
- Authoring programs: the Wida series (now known as *The Authoring Suite*),
- Writing - word-processing: *Word* (Microsoft),
- Oral skills - using simulations and adventures as a stimulus: *London Adventure* (Cambridge University Press),
- Listening skills: *Getting the Message* videodisc (Glyn Jones, Eurocentres),
- Information source: *Wordstore* (Wida),
- Discovery and exploration: *Loan.*

2.1.3 Classification based on usage

Hardisty and Windeatt (1989, after Davies:IS5) discuss another classification of CALL software, basing on the destined type of usage, rather than strictly taking content into account. They classify software into,

- 'School' programs, which are meant to be used as classroom exercises and involve gap-filling, multiple-choice, sequencing, matching, total text reconstruction.
- 'Office' programs, which are used to complete other, than strictly language learning oriented tasks, such as, word-processors, databases, communicators, spreadsheets.
- 'Library' programs, such as Dictionaries, Web Applications and Concordancers – programs for creating list of words in context on the basis of a text input. (Davies:IS5).
- 'Home' programs, such as adventures and simulations.

2.2 CALL evaluation

The evaluation of computer programs is a complicated and time consuming

process, which needs to be repeated for every educational package the teacher attempts to utilize in his CALL classroom. Below, a number evaluation for software methods is presented.

2.2.1 3D Heuristic Model of Learning

All used software needs to be chosen on the basis of what the teacher actually requires, as opposed to the teacher tailoring language lessons to fit the program they chose. This is explained well by Jones (1986:171) who said, "It's not so much the program: more what you do with it".

In this aspect Baumgartner and Payr (1998:4) have devised a significant tool for teachers utilising CALL. They have presented a three dimensional space; the three dimensions being Acting, Organisation and Teaching/Learning, whereupon a teacher can mark their evaluation of software packages and correlate them with a description of their lesson in an organized manner. The dimensions, following Baumgartner and Payr (1998:4-6), are:

- The Acting axis lists forms and possibilities that are available to the learner as regards interaction with his environment. The collection of those forms or possibilities depends largely on the student's acquired learning techniques, thus indirectly on their experience with language learning. As regards learning applications, the five level can be described as:

    1. perceive, remember: application's main goal is to “present and transfer contents” (Baumgartner and Payr, 1998:5).
    2. apply, imitate: a group characterized by tests and exercises, optionally presenting content.
    3. decide, select: application presents the learner with a complex task, where the

method of arriving at a solution also needs to be chosen by the them.

4. explore, understand: simulations and integrated learning environments, allowing for pattern searching and holistic perception of learnt information.
5. invent, master, cooperate: applications used by experts or live users, not designed solely for learning purposes.

- Dimension of social organization describes the role of the teacher or media in the learning process, by placing them in one of the three groups:
  - teacher, whose main role is explanation and demonstration,
  - tutor, who observes and provides aide,
  - coach, whose aim is to accompany and cooperate with students.

  The individual levels are further described by Figure 2.1,

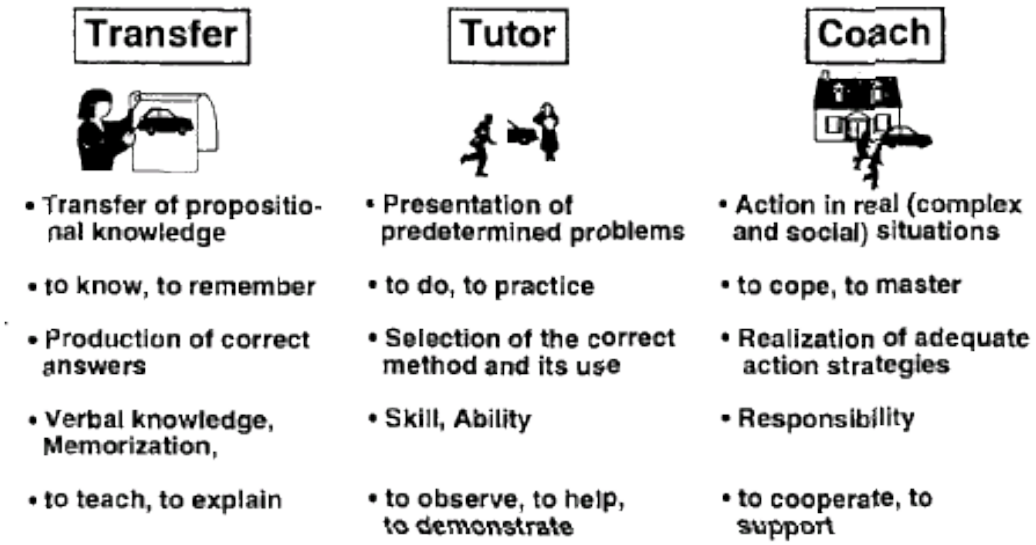


Figure 2.1. Social organisation of the learning process (Baumgartner & Payr, 1996:4).

- Learning/teaching dimension helps to refine rough definitions of subjects and learning goals, evaluating their dependency on context and dividing into three

large groups of context-free, context dependent and problems which need to be constructed from real world and solved with any among all known methods. These three major groups are further divided into five levels, related closely to five sets placed on the Acting axis,

1. context-free facts (related to remember, receive) - presentation of facts,
2. context-sensitive rules (related to apply, imitate) - tests and exercises,
3. problem solving (related to decide, select) – complex tasks,
4. gestalt and pattern recognition (related to) - holistic learning environments,
5. complex situations (related to) - expert applications.

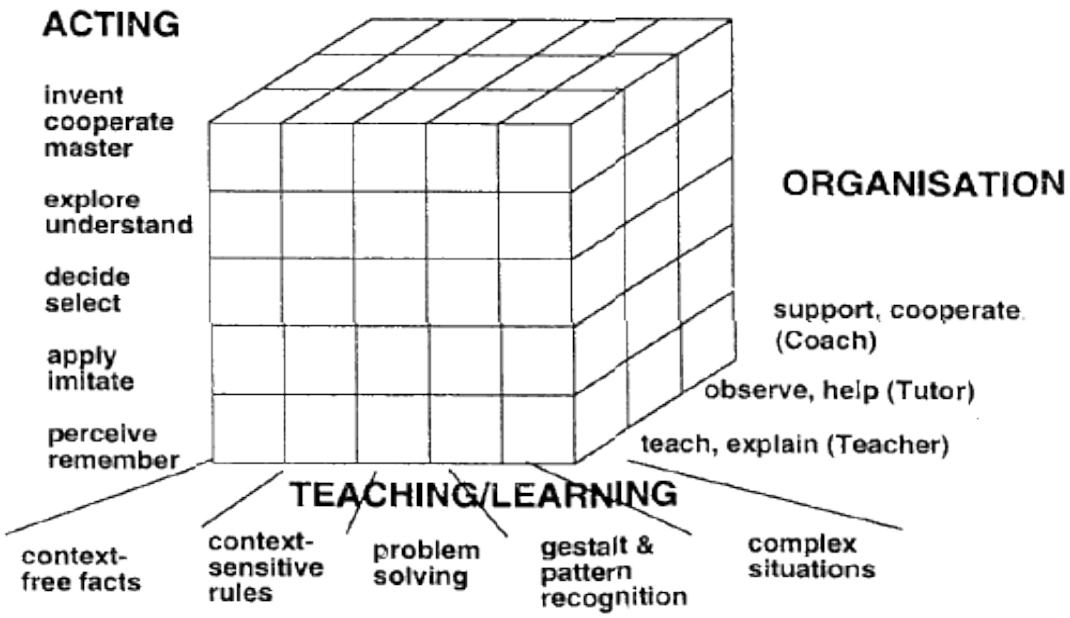


Figure 2.2. 3D Heuristic Model of Learning (Baumgartner & Payr, 1996:3).

This evaluation produces a graphical model of quality of the evaluated application and offers a possibility to compare it with similar models of other applications or teacher's requirements.

2.2.2 Evaluation by answering questions

A different approach to evaluating of software is presented by Davies (IS5) who presents a questionnaire including a set of direct and easy to follow questions, which guide the teacher through the process of evaluation. In it, the teacher is first asked to answer several questions helping to decide whether any software is necessary or can the task be fulfilled by more traditional "pencil and paper or chalk and talk" (IS2) methods. Then, questions establishing the quality of the application, follow the preliminary inquiry; are presented in Table 2.1. The remaining questions are meant for the teacher to decide, whether the application suits him aesthetically as,

> what you feel about a CALL software package is often a question of personal taste. All too often teachers dismiss a CALL package as "rubbish" without considering, for example, who the intended users are and how they are likely to use it. Try to put yourself in the position of the user. Just because you happen to dislike adventure games, don't assume that they won't appeal to a disenchanted 13-year-old male learner of French. If you don't believe in presenting grammar exercises on a computer, then don't assume that they won't appeal to the sixth-form swot. It's a question of horses for courses (IS2).

This straightforward evaluation gives the teacher an idea about how the application can be used and provides him with an opportunity to decide whether it fits their requirements.

The questionnaire system is not without drawbacks, as a teacher may find a number of questions not applicable or important for his purposes. For instance, a teacher evaluating custom tailored software need not worry, about it not being relevant to their program of study or whether the supplied vocabulary is accurate or not.

2.2.3 Classroom conditions

When evaluating software, it is necessary to take into account the conditions in the classroom, which do not have a direct impact on learning. Different computer classrooms are equipped with different machines, running different operating systems

and sets of software, which need to be considered when educational software is being chosen. It is of no use to select an educational package which will simply be unable to operate on a given computer.

Title of software package / program:	
Criterion	**Rating**
Is the level of language that the program offers clearly indicated?	Yes/No
Is it easy to start the program?	Yes/No
Is the user interface easy to understand? (For example, is the screen layout clear and easy to interpret?)	Yes/No
Is it easy to navigate through the program?	Yes/No
Are icons that are used to assist navigation (e.g. back to the homepage, exit) clear and intelligible?	Yes/No
Is it always clear to the learner which point s/he has reached in the program?	Yes/No
Does the program include scoring?	Yes/No
If a scoring system is used, does it make sense?	Yes/No
If a scoring system is used, does it encourage the learner?	Yes/No
Is the learner offered useful feedback if s/he gets something wrong?	Yes/No
If the learner gets something right purely by chance, can s/he seek an explanation in order to find out why the answer is right?	Yes/No
Can the learner seek help, e.g. on grammar, vocabulary, pronunciation, cultural content?	Yes/No
Does the program branch to remedial routines?	Yes/No
Can the learner easily quit something that is beyond his/her ability?	Yes/No
Are the grammar and vocab used in the program accurate?	Yes/No
Does the program offer cultural insights?	Yes/No
If the program includes pictures, are they (a) relevant, (b) an aid to understanding?	Yes/No
If the program includes sound recordings, are they of an adequate quality?	Yes/No
If the program includes sound recordings, are they (a) relevant, (b) an aid to understanding?	Yes/No
If the program includes sound recordings, is there a good mix of male and female voices and regional variations?	Yes/No
Can the learner record his/her own voice and play it back?	Yes/No
Does the program make use of Automatic Speech Recognition (ASR)?	Yes/No
If the program makes use of ASR, is it effective?	Yes/No
If the program includes video sequences, are they of an adequate quality?	Yes/No
If the program includes video sequences, are they (a) relevant, (b) an aid to understanding?	Yes/No
Is the program relevant to your national / regional / departmental programme of study?	Yes/No

Table 2.1. CALL Software Evaluation Form (IS2).

2.3 Educational software

Taking into account the rapid evolution of CALL software and the time of creation of most typologies, it is worth mentioning newly created applications that appeared on the market since the compilation of these classifications. The software will be presented in various classifications and evaluated in the 3D heuristic model. An evaluation through a questionnaire will not be attempted, as a large number of questions would prove to be inapplicable to the presented programs, as explained in Section 2.2.2, as the majority is custom tailored.

Hot Potatoes

Hot Potatoes is an educational package containing six applications "enabling you to create interactive multiple-choice, short-answer, jumbled-sentence, crossword, matching/ordering and gap-fill exercises for the World Wide Web" (IS7) developed by Stewart Arneil, Martin Holmes and Hilary Street and published by Half-Baked Software, Inc. According to Winke and MacGregor (IS5), Hot Potatoes were "designed to allow teachers to make interactive, Web-based exercises that can be accessed by students at any Internet-capable computer terminal with a standard Web browser". With this software a typical user with basic computer literacy skills can create appealing exercises to use in the language classroom, with fully defined appearance, exercises, feedback and instructions.

As stated by Winke and MacGregor (IS5) the suite offers an ability to create materials in well-supported internet formats, meaning that there is a high probability of successful operation on most modern operating systems, with little or no need of additional configuration on the target platform.

An additional advantage of the suite is that it is offered free of charge to state

funded educational institutions and their workers, with the limitation only, that all created exercises should be made publicly accessible through the Internet. Should those conditions not be met a 500 copy license can be applied for for 60 USD (IS5).

New English Zone Interactive CD-ROM

New English Zone is an educational package designed to use with the New English Zone school book. It is a suite that offers many exercises, similar to those presented in Hot Potatoes, without the option of authoring. It was originally coded by Forma-Leonardo and developed by Turboslug/Turbosnail as a Macromedia Flash application.

The suite is rich in graphics and supplied in a pleasantly designed user interface and a well laid out navigational system. The entirety of the application supports the point-and-click and drag and drop approaches to navigation as well as solving exercises, creating the feeling of interactive behaviour.

The exercises are provided with well written, clear instructions. The scope of material and language is defined by the book that the suite accompanies, and the possibility of modifying it is not available to the teacher, as this is not an authoring suite. The exercises are heavily influenced by the form a typical language workbook takes – the majority of the exercises are exercises easily recreated on paper, and do not necessitate electronics as such. Although a use of the computer sound system has been made to allow students to solve simple listening exercises.

Tester v2.13

Tester is a freeware lightweight authoring application designed for conducting simple language drills or tests, based on an unsophisticated question and answer system. The application was developed by the author as a Java program for classroom or

extramural vocabulary or grammar practice, and as such will be used as a part of research featuring in chapter 3.

Tester is designed to be portable to any platform utilizing a standard Java Runtime Environment, a free virtual machine allowing for greater software portability. This means that teachers can distribute it to their students' without a need to worry about whether the program will operate on the target computer.

The exercises for the program need to be prepared by the teacher, by providing a set of questions and answers in a properly formatted list. This simple solution allows for great versatility of created exercises, as a lot of more advanced exercises, such as multiple choice questions or scrambled sentences, can be easily converted to a question and answer format. This format also creates a possibility for the student to type their answers in correctly, which is in contradiction to the other presented systems. The time consumed by this functionality is a definite drawback, yet it might result in increased effectiveness of the software.

A formal evaluation, according to the methods described in Sections 2.1 and 2.2 of all three software systems is presented in Table 2.4.

Typology/Evaluation method		Application		
		Hot Potatoes	**New English Zone 2 Interactive CD-ROM**	**Tester v2.13**
Davies & Higgins (1985, after Davies:IS5)		Gap filling, Multiple Choice, Re-ordering, Cloze, Free-format	Gap filling, Multiple Choice, Re-ordering, Cloze, Games	Gap filling, Multiple Choice, Re-ordering, Cloze
Jones & Fortescue (1987, after Davies:IS5)		Vocabulary, Writing, Grammar, Listening, Reading, Information, Writing, (Individual Modules) Authoring (Suite)	Vocabulary, Reading, Grammar	Vocabulary, Writing, Grammar, Writing, Authoring
Hardisty & Windeatt (1989, after Davies:IS5)		School	School, Home	School
Warschauer (2000:67)		Structural	Structural	Structural
Bax (2003:21)		Restricted	Restricted	Restricted
Baumga-rtner & Payr (1996:3)	Acting	apply/imitate, decide/select	apply/imitate	apply/imitate
	Organisation	context-independent, context-dependent, problem solving	context-independent, context-dependent	context-independent, context-dependent
	Teaching / Learning	teacher, tutor	teacher	teacher

Table 2.2. Software Evaluation Summary.

2.4 Conclusion

The present chapter presents some well known approaches to the division of CALL software into classes, depending on their contents, skills they are designed to enhance, environment, in which they are meant to be utilised, or historical development descriptions they fit. Secondly, the chapter illustrates a number of approaches to

evaluation of educational software, including the 3D heuristic model of learning of software and a question form method. Finally the chapter presents three modern CALL software packages, including an example of an authoring suite, an integrated learning environment and a lightweight drill application and presents them through the prism of priorly presented typologies and the 3D heuristic model evaluation.

Chapter Three

Practical Implications

The present chapter aims to provide a description of the conducted research in an attempt to prove the effectiveness of CALL software and compare it with the effectiveness of non-CALL activities. The experiment examines an attempt to teach an identical set of information and abilities to groups of students through different methods and compare their results.

The research described in the chapter is presented in four sections, the first of which presents the asserted hypotheses and the tests, which are to be conducted to produce a sufficient proof. The second section describes the method used to conduct the experiment and the resources which were put into use. The third section shows a detailed analysis of the statistical information supplied by the experimental procedures. The following discussion attempts to arrive at possible interpretation of the causes of the experiments' results and its practical implications.

3.1 Research Hypothesis and proposed tests

This research sets out to prove the hypothesis that in the terms of effectiveness, Computer Assisted Language Learning is indistinguishable or preferable to more universally used book and blackboard oriented methods as regards elementary school students' practice of newly introduced grammatical items.

As an attempt to establish the validity of the hypothesis, students were tested on the possession of grammar skills resulting from the profile of the classroom activities

they were subjected to, the claim being, that the groups utilizing CALL software should prove, on the whole, to have solved a greater number of grammar exercises correctly than their counterparts from the control group. Additionally, CALL groups will be compared on the same principle to provide a basis for their examination, and the factors resulting in their effectiveness.

To provide formal statements,

- the first asserted hypothesis postulates achievement of a statistically significantly higher mean score by the experimental group using Tester on conducted grammar tests than the control group subjected to regular class conditions as confirmed by statistical comparative analysis in a sequence of tests,
- the second asserted hypothesis postulates achievement of a statistically significantly higher mean score by the experimental group using NEZ suite on conducted grammar tests than the control group subjected to regular class conditions as confirmed by statistical comparative analysis in a sequence of tests,
- the third asserted hypothesis postulates achievement of a statistically significantly higher mean score by the experimental group using Tester on conducted grammar tests than the NEZ suite group as confirmed by statistical comparative analysis in a sequence of tests.

Failing to prove any significant superiority of the groups utilizing CALL software over the control group, it is considered the goal of the experiment to prove, that there will not be any significant differences between the pairs of groups, which serves to provide an information that their effectiveness allows them to be used interchangeably.

Formally,

- the fourth asserted hypothesis postulates achievement of a statistically insignificantly mean score difference between the experimental group using

Tester on conducted grammar tests than the control group subjected to regular class conditions as confirmed by statistical comparative analysis in a sequence of tests,

- the fifth asserted hypothesis postulates achievement of a statistically insignificantly mean score difference by the experimental group using NEZ suite on conducted grammar tests than the control group subjected to regular class conditions as confirmed by statistical comparative analysis in a sequence of tests,
- the sixth asserted hypothesis postulates achievement of a statistically insignificantly mean score difference by the experimental group using Tester on conducted grammar tests than the NEZ suite group as confirmed by statistical comparative analysis in a sequence of tests.

This hypotheses could establish the usefulness of CALL among everyday classroom activities and provide support in singling out significant effectiveness-related factors of software.

The above mentioned hypotheses will only provide sufficient proof, if the groups are of insignificant variation, thus, in addition to the hypotheses a condition of validity should state that,

- the variation between the three groups will be of no significance, in the case when none of the three groups achieves a statistically significantly higher mean score when a scaled arithmetical average of previous grammatical tests of a similar nature is taken into account.

If a failure to prove this hypothesis is indicated by the statistical comparative analysis between groups, the entire experiment becomes invalid, on account of groups' incomparability.

3.2 Method

The method of conducting the experiment was chosen in such a way as not to disturb the normal course of the students' lessons, but to enhance them with an addition of Computer Assisted Language Learning software in the form of exercises. The material of the programs was tailored to fit the contents of the book used by the students on a daily basis, which puts emphasis on easily testable grammar and lexical items.

The method aims to prove that educational computer software is a valid addition to other classroom activities, on an exemplary grammar centred set of exercises. Yet it is important to note that the emphasis of the experiment is on the utilised software, and not on the actual instance of the skills or knowledge, which the students are expected to gain.

3.2.1 Participants

Three groups of eight students were chosen out of the tested population of 56 students attending 6th grade of Elementary School no. 4 in Piła, Poland, who previously were divided into two experimental groups using CALL software and a control group, on the criteria of the used method of practising as well as their previous achievement regarding test scores. The groups' limited numbers are caused by the need to reduce the variance of previous test scores within a group, to provide sufficient conditions to conduct further tests. The studied groups consisted ultimately of the classes' most motivated and active students, able to achieve high scores throughout the semester, who would present a mean grade average of at least 3.60 on a scale from 1.00 to 5.00. All of the students had a similar experience in language learning – elementary school language lessons, with a small subset of students attending private lessons. It is worth to point out, that the students were uninformed of the progress of the study until its end, and were therefore tested in completely natural conditions, lacking elements, which could be introduced by the knowledge of being tested for additional purposes of a study.

The 'Tester' and 'NEZ' groups are the groups using CALL software (Tester v2.13 and New English Zone Interactive CD 2 respectively), whereas the group marked 'Control' did not. An overview of the groups' statistical parameters used to prove the validity of the division is presented in Table 3.1.

Parameter	Tester	NEZ	Control
Mean (Expected Value)	4.23	4.24	4.27
Median (Middle Value)	4.29	4.20	4.39
Mode (Most Common Value)	3.6	4.25	4.43
Variance	0.28	0.12	0.24
Standard Deviation	0.53	0.34	0.49

Table 3.1. Statistical parameters of previous tests.

Groups' validity was tested in accordance with the rule laid out by the presented condition of validity. The hypothesis was borne out, as, in accordance with Johnson (1984:304), since Student's T distribution can be used to arrive at an effective base to examine the validity of a working hypothesis, the right-hand tail Student's T-test is employed as Test Statistics for the hypothesis assuming that the group's mean results are lower or equal than another group's mean results at the 0.05 significance level. It is assumed that if the hypothesis is not rejected (Johnson 1984:264-267), the mean results can be viewed as approximately the same, and differences between them are of a significant worth. Otherwise, the differences are regarded as insignificant. Having proven the insignificance of differences between each pair of groups for all of the proposed samples, it becomes evident that all three groups are of insignificant differences among themselves. The test results have been summarized in Table 3.2.

Test description	Compared Groups		
	Tester, NEZ	Tester, Control	NEZ, Control
The difference in the sample sizes	0.00	0.00	0.00
Student's T Test probability $T(\bar{X}_k = \bar{X}_c)$	0.49	0.44	0.44
The null hypothesis that $T(\bar{X}_k = \bar{X}_c) \leq 0.05$ can…	be rejected	be rejected	be rejected
The differences between groups are…	insignificant	insignificant	insignificant

Table 3.2. Null hypothesis discussion regarding the significance of differences between groups.

The rejection of the null hypothesis allows the remainder of the experiment to be carried out without a fear of invalid results.

3.2.2 Materials

The experiment was aided by a number of materials prepared by the teacher to allow the students experience Computer Assisted Language Learning. The necessary software included a set of New English Zone compact discs and a set of instances of Tester programs. In addition to the software a set of exercises needed to be prepared. The material was based on the New English Zone 3 book, and the exercises present in the accompanying CD, which were converted to a format suitable for Tester. The chapters to be included in the experiment were chosen with regard to the normally planned activities. These materials were not distributed to the students, but instead were used in the schools computer laboratory during language lessons dedicated to exercises.

The materials for NEZ took a form of sets of exercises often based on the drag-and-drop interface or other graphical user interfaces. Multiple choice questions, scrambled sentences, blank filling and work with a text were among the constituent components of each set of activities. The range of the material was set out by the books

and workbooks the students used in class. The exercises, on the whole, were created in an eye pleasing fashion and used a wide range of the possibilities offered by CALL, as regards user interfaces, such as, the use of sounds and images. A sample set of exercises is presented in Appendix B.

The materials for Tester were based on the materials supplied for NEZ with an additional tailoring to the needs of the more limited program. The exercises were always responded to in the written form, even when the particular exercise was a question of the multiple answer sort, that would normally require marking a correct answer. The questions were always presented in a normal text form, not unlike the one found in the students' exercise books. An additional option of showing translations of the questions appeared and was utilized if needed. The used exercises are presented in Appendix A.

The control group worked on materials from their exercise books and their students' books. These materials included the sorts of exercises that NEZ suite facilitates, just in a plain textbook format, and not in any electronic form.

The scope of the material was set out by the program the teacher was in need to follow, as usually throughout the year. The emphasis was on acquiring grammatical knowledge and learning a number of new vocabulary items. The grammar was divided into small portions, presented in every unit. These portions presented usually a single aspect of a grammar tense or syntactic structure, such as just the declension of the verb 'to be' with a limited set of present participles in the Present Continuous tense, or the use of the 'any' or 'some' before nouns in interrogative, negative and affirmative sentences. Using the material provided by the syllabus for the year 2005/6 guaranteed working at a level proper to elementary school students.

3.2.3 Procedure

The experiment consisted of a series of three tests preceded by sessions of

practice-oriented lessons. The main experimental variable was the method (use of one of the CALL programs, no use of CALL) used for during practice sessions of each of the groups. The experiment was meant to establish the effect of the used method on the students' school achievements.

The division into the three groups and its validity were discussed in detail in Section 3.2.1. Each of the tests was conducted after about a month's time of training done by the students as their regular classes, except for the second test, which had a preparation time drawn out in time for all groups to just under two months' time. A single practice session consisted of 45 minutes of pair and individual work in front of the computer for experimental groups, and the same amount of time of diversified regular classroom activities conducted individually or in pairs or groups for the control group. Lockstep activities were usually avoided in the control groups' exercises, to try to achieve a greater similarity of conditions. The practice sessions were always conducted using the styles of exercises that would appear in the form on the following test, both in types of tasks as well as the examined material.

3.3 Data analysis

After the completion of all the tests the scores underwent a statistical analysis testing the hypotheses 1-6 presented in Section 3.1. Results of the tests are presented in Appendix C. In general the analysis proved that groups using CALL software on a general principle had results not noticeably different than those of the control group. A few exceptions also appeared, where an experimental group was marginally significantly better than the control group. However on the whole it is certain that the methods did not present a significant statistically determined difference among themselves at a significance level lower than 0.05. Further detailed analyses are presented in the following subsections.

3.3.1 Data analysis: comparison between Tester and control groups

Table 3.3 and Figure 3.1 display the information gathered from the analysis of the data collected from the three tests performed by the Tester and Control groups. In spite of the fact that, in accordance with the observation of the mean scores (the full length of the bottom bar and a half of the standard deviation bar) in Figure 3.1, the Tester method shows an increased mean effectiveness than the non-CALL methods used for the control group on all tests, as shown in Table 3.3, there is not a sufficient proof to signify any differences between the results achieved by the groups. Therefore, it is possible to say that there are no significant differences between the two methods, for the significance level of 0.05 or lower. It is important to note though, that a relaxed significance level to 0.1, which is often considered sufficient for pedagogical research, would provide basis for the statement that Tester is indeed significantly different, and therefore better, than the methods used by the control group as regards effectiveness, in test 2. This allows a statement of marginal superiority of Tester groups' results over those of the control group.

Regarding the first and fourth hypotheses it is possible to say that,

- as shown by Table 3.3, there is no significant difference in effectiveness between the methods, leading to a rejection of the first hypothesis. No significant differences mean that no method can be perceived as more effective. It is only possible to state that Tester is marginally more effective (significance of 0.1) in certain cases (Test 2), but this does not bear out the hypothesis for significance lower than 0.05,
- as shown by Table 3.3, it is confirmed that there can be no significant differences in efficiency shown, therefore the fourth hypothesis is confirmed.

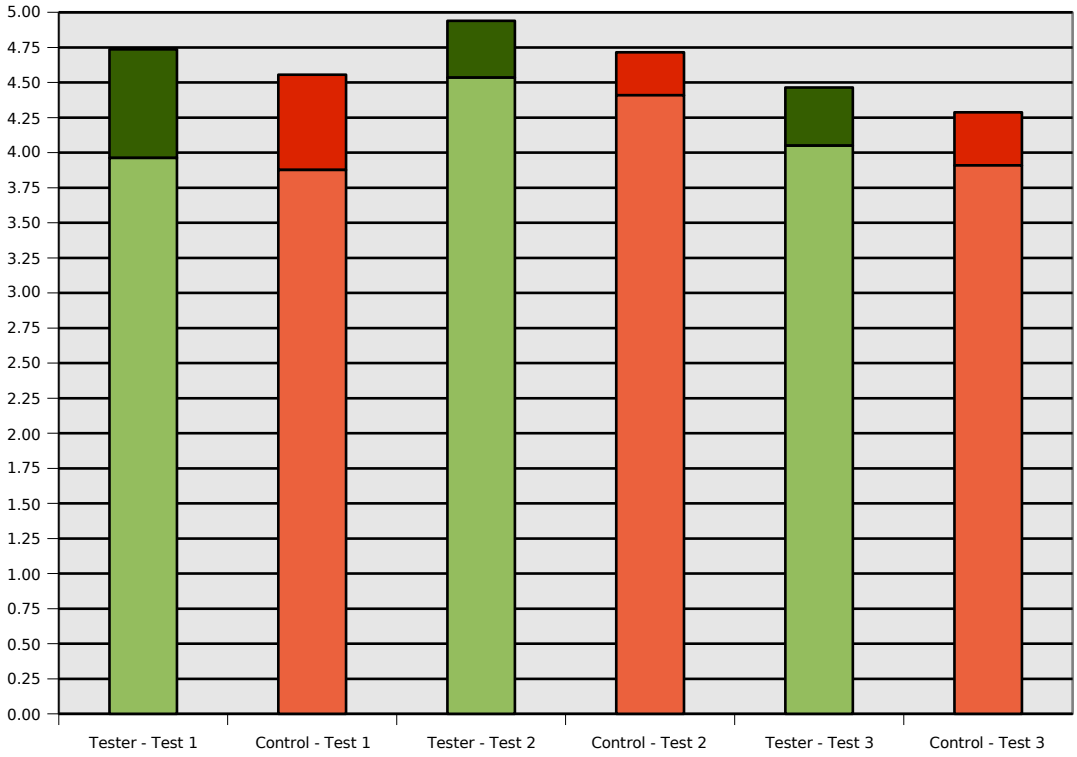


Figure 3.1. Comparison of the mean results and standard deviation achieved by the Tester and Control groups in tests 1-3.

Parameter		Test 1	Test 2	Test 3
NEZ	Mean (Expected Value)	4.35	4.74	4.26
	Standard Deviation	0.56	0.29	0.30
Control	Mean (Expected Value)	4.22	4.56	4.10
	Standard Deviation	0.48	0.22	0.27
Student's T test probability $T(\bar{X}_k = \bar{X}_c)$		0.31	0.10	0.14
The null hypothesis that $T(\bar{X}_k = \bar{X}_c) \geq 0.05$ can…		not be rejected	not be rejected	not be rejected
Difference between the groups are deemed...		insignificant	insignificant (marginally significant)	insignificant

Table 3.3. Statistics and conclusions drawn from the comparison of Tester and Control groups.

3.3.2 Data analysis: comparison between NEZ and control groups

The data gathered from the analysis of the three tests performed by NEZ and control groups are presented in Table 3.4. and Figure 3.2. The mean scores shown in Figure 3.2 present a situation, where the Control group students achieve better results than those of the NEZ group on the two latter tests. Upon examining the first test one finds that the CALL assisted group presented a better level of effectiveness than the Control group not using CALL software. In spite of this, as seen in Table 3.3, there is no possibility of confirming significant differences between methods. Thus, it is possible to say that there are no significant differences between the two methods, for the significance level of 0.05 or lower.

Furthermore, an analysis of standard deviation on tests two and three shows that the results achieved by the control are more predictable than NEZ, which can be deduced from observation of a lesser hight of the standard deviation bar in Figure 3.2. This means that in this instance of the problem the Control group had achieved more consistent results than the NEZ group. The standard deviation in the first test shows an opposite situation, as students utilizing NEZ proved to supply more consistent results.

Regarding the second and fifth hypotheses it is possible to say that,

- as shown by Table 3.4, there is no significant difference in effectiveness between the methods, leading to the rejection of the second hypothesis.
- as shown by Table 3.4, it is confirmed that there can be no significant differences in efficiency shown, therefore the fifth hypothesis is confirmed.

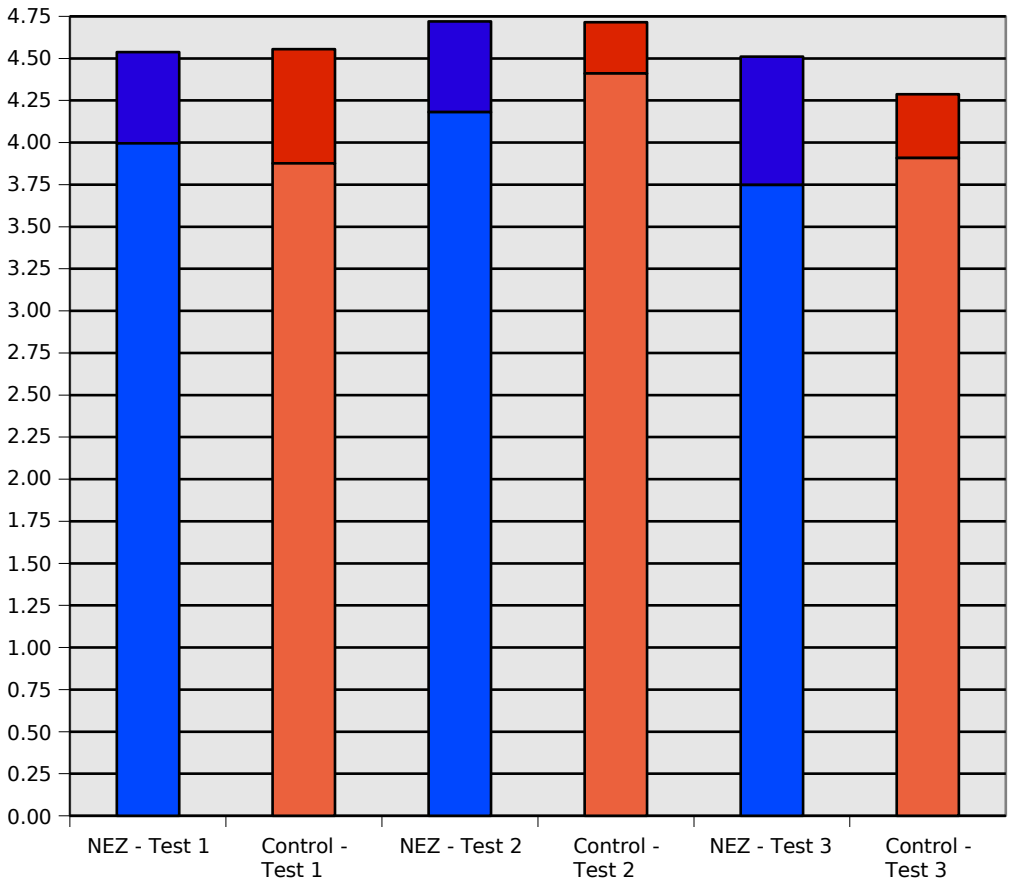


Figure 3.2. Comparison of the mean results and standard deviation achieved by the NEZ and Control groups in tests 1-3.

Parameter		Test 1	Test 2	Test 3
NEZ	Mean (Expected Value)	4.27	4.54	4.13
	Standard Deviation	0.39	0.39	0.55
Control	Mean (Expected Value)	4.22	4.56	4.10
	Standard Deviation	0.48	0.22	0.27
Student's T test probability $T(\bar{X}_k = \bar{X}_c)$		0.31	0.10	0.14
The null hypothesis that $T(\bar{X}_k = \bar{X}_c) \geq 0.05$ can…		not be rejected	not be rejected	not be rejected
Difference between the groups are deemed...		insignificant	insignificant	insignificant

Table 3.4. Statistics and conclusions drawn from the comparison of NEZ and Control groups.

3.3.3 Data analysis: comparison between Tester and NEZ groups

Table 3.5. and Figure 3.3. display the information gathered from the analysis of the data collected from the three tests performed by the Tester and NEZ groups, of which both use CALL software. Although it is visible, by observing the mean scores in Figure 3.1 , that the Tester method appears to be of a slightly better mean effectiveness than the NEZ method on both the latter tests, and of almost equal mean effectiveness in the first test, it is only proven to be true for this particular instance of the experiment, and on the whole, as shown in Table 3.3, not possible to confirm any significant differences between the two methods. Therefore, it is possible to say that there are no significant differences between the two methods, for the significance level of 0.05 or lower. On the other hand, it is possible to confirm a marginal significance of the superiority of effectiveness of Tester over NEZ in test two, as for a significance level of 0.1, meaning that in certain circumstances Tester will produce preferable effectiveness to NEZ.

An analysis of the standard deviation on tests two and three shows that the results achieved by Tester are more predictable than NEZ, which can be deduced from the observation of a lesser hight of the standard deviation bar in Figure 3.1.This means that in this instance of the problem the Tester group had achieved more consistent results than the NEZ group. Standard deviation in the first test shows an opposite situation, as students utilizing NEZ proved to supply more consistent results.

Regarding the third and sixth hypotheses it is possible to say that,

- as shown by Table 3.3, there is no significant difference in effectiveness between the methods, leading to the rejection of the third hypothesis. No significant

differences mean that no method can be perceived as more effective. It is only possible to state that Tester is marginally more effective (significance of 0.1) in certain cases (Test 2), but this does not bear out the third hypothesis for significance of lower than 0.05,

- as shown by Table 3.3, it is confirmed that there can be no significant differences in efficiency shown, therefore the sixth hypothesis is confirmed.

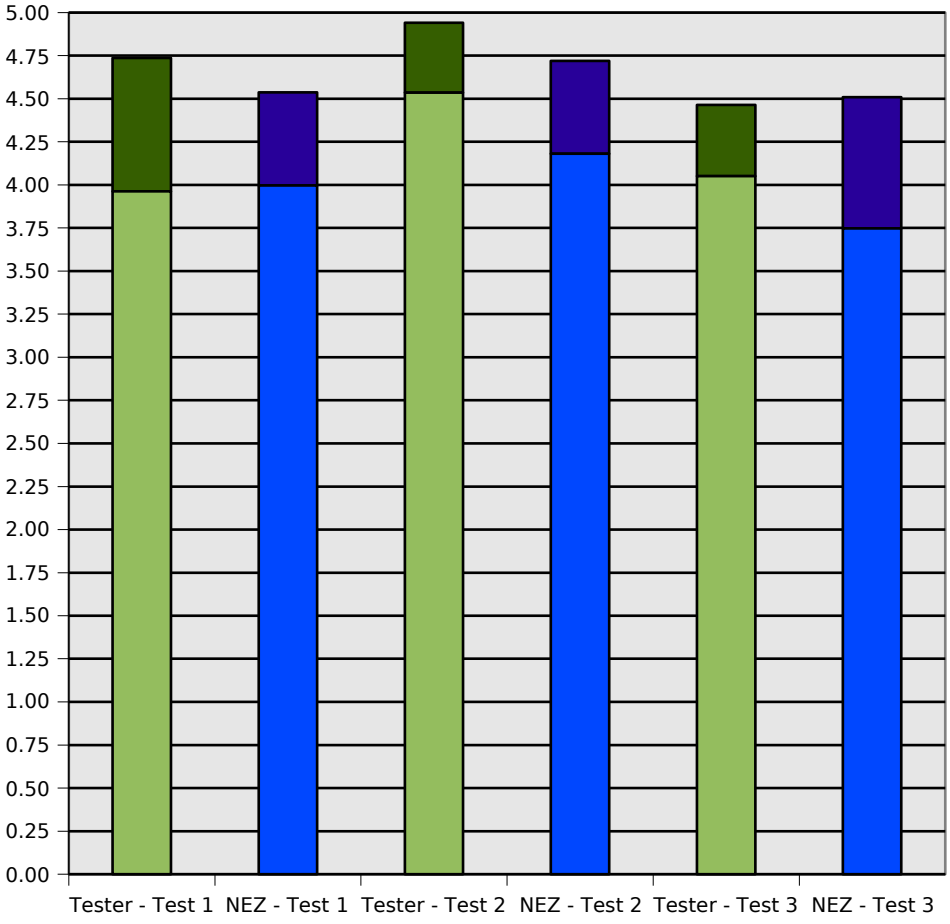


Figure 3.3. Comparison of the mean results and standard deviation achieved by the Tester and NEZ groups in tests 1-3.

Parameter		Test 1	Test 2	Test 3
Tester	Mean (Expected Value)	4.35	4.74	4.26
	Standard Deviation	0.56	0.29	0.30
NEZ	Mean (Expected Value)	4.27	4.45	4.13
	Standard Deviation	0.39	0.39	0.55
Student's T test probability $T(\bar{X}_k = \bar{X}_c)$		0.37	0.06	0.29
The null hypothesis that $T(\bar{X}_k = \bar{X}_c) \geq 0.05$ can…		not be rejected	not be rejected	not be rejected
Difference between the groups are deemed...		insignificant	insignificant (marginally significant)	insignificant

Table 3.5. Statistics and conclusions drawn from the comparison of Tester and NEZ groups.

3.3.4 Additional observations

Upon scrutiny of the experiment, it was possible to make certain observations as to other aspects of the methods. It was reported that the students who used the NEZ suite were very pleased to work with the pleasant-looking graphical user interface. It was also noted that the students tended to finish their exercises early, as they involved an increased number of pointing and clicking to provide input for the program. The students' boredom was also a factor, that was observed to be increasing with the progress of the experiment. The group using Tester v2.13 was noted to be highly competitive in completing their exercises, each student making attempts to outdo their peers scores before the end of the training session.

The reasons presented above seem to be important specifics of each of the program and need to be taken into account, when effectiveness is being discussed.

3.4 Discussion

The main aims of the research was to provide sufficient proof to validate classroom use of CALL software, as at least equally efficient as traditionally used methods, or, preferably, providing additional efficiency. Efficiency was measured by a means of testing students on the material they covered during the exercise oriented lessons, which consisted largely of grammar skills. Although it appears that the statistical method failed to provide sufficient proof for CALL enhanced classes increased efficiency, it is evident that the effect of CALL in comparison to other methods is of insignificant difference (any differences are unimportant or result of statistical errors), and therefore available for substitution for these aforementioned methods. This section discusses the results of the experiment and its interpretation in detail.

3.4.1 Effectiveness of CALL software

As mentioned before, the differences between results produced by groups using CALL and those which did not were proven insignificant by the performed statistical analysis. Upon examining of Figure 3.1 it is also visible that Tester group has generally achieved better results than the control group, as Tester achieved a slightly higher mean score in each test. Standard deviation, which describes the predictability of results presents itself on a similar level in both methods. These results might mean that Tester serves its purpose as a tool for conducting exercises, especially in the form of drills, instead of typical lessons, as they provide similar results.

An additional comment to the results of the second test is also required. The second attempt at testing was conducted after a longer time of practice than the first or third tests, meaning that the students, no matter the group, were forced to spend more time practicing. The results achieved during that test therefore show visibly stronger differences than those achieved during others – the result of comparison of Tester and

control group showing even marginally significant superiority of the former. This occurrence may be a sign of a tendency that could present a more favorable proof for CALL software efficiency, if the test were repeated with elongated practice periods.

In addition to the results presented by the statistics, it is also possible to see additional advantages of using the program. First of all, it provides more student practice time, as each person can practice on their own simultaneously, limited only by the number of available computers and not by the amount of the teacher's time divided among the class. Another advantage is the fact that the exercises the teacher prepares once are highly reusable, and easily distributable, meaning that a well developed set of exercises can be used multiple times throughout the year, in many classes, and, additionally, given to students as homework or extramural practice material without any additional effort.

It was also visible that students on the whole enjoyed practicing with the help of computers much more than their colleagues following the standard path. The evidence of this can be witnessed by observing students' behavior during practice sessions. CALL groups were generally more active and eager to use computers, especially with the introduction of the competitive element in Tester – the score achieved during practice was showed on screen throughout the course of the lesson, so students could look at one another's score and try to outdo one other, by answering more questions. This sort of activity led even those initially not interested in classes to participate. Such a source of motivation is a tremendous advantage.

3.4.2 Effects of differences between CALL software

It is necessary to note that, whereas the differences between results achieved by NEZ group were not proven to have achieved any significant difference from both the control group or the Tester group, it can be seen in Figures 3.2 and 3.3 that there are still

some minor differences in the achieved score. It seems that the NEZ group generally ranked lower than both other groups on tests two and three. This can be explained by pointing to the system of user interface implemented in the New English Zone suite, which, being an interface focusing on the use of the mouse, provided less incentive for memorizing the conducted exercises. It was possible for students to complete a number of exercises without paying attention to the language elements featured within them, by memorizing the sequence of actions in a first attempt and duplicating them in an additional one. This led to a lesser knowledge of the material in general.

Furthermore, students could move to subsequent phases of the exercises, without being forced to complete the previous one in correctly, which is a definite drawback. This meant, that after just an attempt that students could move on to the material which suited their already acquired skills rather than practice new ones. Such eventualities were prevented by the other software, which lead to a visible difference in results. As mentioned in Section 2.3 on Tester v2.13, the input of the students is based only on writing, which provides a reinforcing element in the process of remembering the material. The students needed to provide an answer to each question correctly, before the test ended, as the ones which were judged to be incorrect were placed at the end of the question queue. This means that the students were presented the material they had problems with multiple times, until achieving a state where it was answered correctly. It is also important to note that each of the questions answered incorrectly had to be corrected. The presented restrictions reinforced learning heavily and may be responsible for the production of better results by the students utilizing Tester than those using NEZ.

An explanation of highest results achieved by NEZ in the first test can be explained by the fact that it seemed a new and fascinating exercise for the students. It is possible that presenting such a colorful and pleasant application motivated the students and allowed them to learn much more with an increased emotional engagement. The

scores have dropped during the second and third tests therefore, as the initial engagement faded and the students became increasingly weary of the exercises.

It is also a noteworthy fact that the material present in NEZ was immutable, and in itself a closed entity, whereas, though in need to be created beforehand, the material available through Tester was easily modifiable to suit the newly emerging needs of the teacher. The slight modifications applied to the test material during the experiment included some additional translations for presented examples, which were applied during the students' initial clashes with new material, as additional support. This proved to decrease the time the students needed to become acquainted with the exercises at first contact. One can imagine that a need to tailor exercises to the needs of the curriculum or due to situations in the classroom might be a serious advantage, if not a necessity. On the other hand there exists the need to create the preliminary set of exercises, before the teacher can use the program in class with success, which might prove to be a time consuming activity.

3.5 Further development

The form taken by the experiment, the method of practice and the Tester program used during research can all be subjected to a further development to increase their effectiveness and broaden the spectrum of available possibilities for conducting lessons. Improvements to the research method may include such elements as,

- increased time of exposure to the practiced material, to examine the tendency of CALL software to achieve better results in such circumstances, as can be noticed in Figure 3.1,
- a larger set of programs taken into consideration could prove to be an effective way of evaluating their features and finding out how they cause the overall effectiveness of a sample to increase or decline, finally, to provide a database for

evaluation of CALL software,

- tests conducted over extended sets of material, serving the purpose of defining the most appropriate methods or programs for given parts of the material.

Alternatively, the way the students conducted their practice can be improved by providing more variety to the exercises they were presented, which, so far, were usually in the form of drills. They method could additionally include other computer assisted elements than practice sessions, such as presentation or testing.

The Tester program could be upgraded to feature,

- more advanced forms of exercising, rather than just text input but with the regard to the possible discussed effectiveness decreasing properties of NEZ, which featured a more pleasant point-and-click method of input – in other words, the change could not present a threat to the effectiveness granted by typing drills,
- additional objects within the presentation layer, such as optional images and sounds in the questions,
- additional elements randomizing the order of phrases within jumbled sentence exercises to make them closer to the NEZ version of the same exercise,

Enhancing the aforementioned elements could provide a basis for further experiments and statistical research and would ultimately allow createing a large knowledge base about CALL software effectiveness.

3.6 Final Remarks

To conclude, the experiment has shown that the CALL software used as a tool for conducting practice lessons can be as effective as traditional methods, as well as a source of additional advantages including an increase in student's practice time during the lesson, enhanced engagement in classroom activities and limitations on time necessary to

prepare exercises for extramural or repeated work. The chapter also presented several discrepancies found between the results of the two groups using CALL software, drawing the attention to the details of CALL programs' operation and their effect on the effectiveness. Such factor as the amount of meaningful input (e.g. writing sentences) the student needs to provide or the element of repetition of material which has not been mastered were discussed, to show the possible reasons to the state which occurred.

Final Remarks and Conclusions

The aim of the work was to describe CALL as an approach, with regard to its definition, history and classification and evaluation of different educational computer programs which form its constituent elements, followed by examples of modern software of such applications. Furthermore the work has been to present evidence of the effectiveness of CALL in comparison with traditionally used methods of teaching, by the way of presenting data obtained through an experiment.

In Chapter One the historical background of the approach has been described and inspected along with its description and some views on its future development. It presents the exact definition of CALL, the origins of the name, its historical outline, two views on division of CALL development into phases and approaches.

In Chapter Two different CALL typologies are presented and described, including the exercise oriented typology, the skill oriented typology, type of usage oriented typology and historical typologies. In the following section the chapter presents a number of ways to evaluate software, such as the 3D Heuristic Model or evaluation by asking questions and assessing classroom conditions. Finally, the chapter provides examples of modern computer programs (Hot Potatoes, New English Zone suite, Tester v2.13) with their evaluation and typologies.

In Chapter Three the experiment serving to prove CALL effectiveness has been described by presenting tested hypotheses, groups used for experiment, and rationalization of the choice of such groups, description of used materials, analysis and discussion of experiment's results and final remarks concerning the conclusions the experiment allowed to arrive at and some ways of further development.

The work presents sufficient evidence for the effectiveness of CALL software as

an aid in language learning. Furthermore, it presents some additional advantages of working with CALL, which are capable of enhancing both the students' progress as well as ease a teacher's work. Keeping these advantages in mind and the fact that the advancement of technology continues to create new possibilities, it might be observed that CALL might become a natural tool in language learning.

Appendix A: Tester v2.13 Exercise Set

Exercises used with Tester v2.13 were based on exercises from New English Zone 2, which are presented in Appendix B. The presented material is in source format. The syntax of the source format is composed of a list of answer (at least one variant) on the left, followed by square brackets, between which the hint for the student can be set optionally. The brackets are followed by HTML coded question the student is presented with. This can be illustrated symbolically as:

<answer variant> | <answer variant>... [<hint>] <question in HTML>

The material covers 3 chapters (3,4,5) of New English Zone 2 book. The hints put in the brackets are Polish translations of the question, which were used during the first attempt at solving the test by the students, and then removed. The ordinal number has been added for the purposes of this document and was not a part of the original data set.

1st set of material

1. play [Connor gra w piłkę nożną codziennie] Wybierz prawidłową odpowiedź:
play/plays

Connor _____ football every day.
2. watch [Oglądam telewizję po szkole] Wybierz prawidłową odpowiedź:
watch/watches

 I _____ television after school.
3. live [My mieszkamy w Polsce] Wybierz prawidłową odpowiedź:
live/lives

 We _____ in Poland.
4. like [Emma i Holly lubią hamburgery] Wybierz prawidłową odpowiedź:
like/likes

 Emma and Holly _____ hamburgers.

5. gets up [Ona wstaje o siódmej] Wybierz prawidłową odpowiedź:
get up/gets up

 She _____ at 7 o'clock.
6. plays [Gavin gra w gry komputerowe w łikend] Wybierz prawidłową odpowiedź:
studies/live/watch/plays/gets up

 Gavin _____ computer games at the weekend.
7. gets up [Holly wstaje o siódmej rano] Wybierz prawidłową odpowiedź:
studies/live/watch/plays/gets up

 Holly _____ at 7 o'clock in the morning.
8. watch [My ogladamy telewizję w Sobotę popołudniu] Wybierz prawidłową odpowiedź:
studies/live/watch/plays/gets up

 We _____ television on Saturday afternoon.
9. studies [Marcin uczy się angielskiego w szkole] Wybierz prawidłową odpowiedź:
studies/live/watch/plays/gets up

 Marcin _____ English at school.
10. live [Ja mieszam w domu w Radomiu] Wybierz prawidłową odpowiedź:
studies/live/watch/plays/gets up

 I _____ in a house in Radom.
11. doesn't [Holly nie lubi hot dogów] Uzupełnij zdanie formą przeczącą w czasie Present Simple:

Holly _____ like hot dogs.
12. don't [My nie uczymy się polskiego] Uzupełnij zdanie formą przeczącą w czasie Present Simple:

We _____ study Polish.
13. doesn't [On nie serfuje w internecie] Uzupełnij zdanie formą przeczącą w czasie Present Simple:

He _____ surf the net.
14. don't [Ty nie grasz w szachy w szkole] Uzupełnij zdanie formą przeczącą w

czasie Present Simple:

You _____ play chess at school.

15. don't [Emma i Gavin nie mieszkają w Londynie] Uzupełnij zdanie formą przeczącą w czasie Present Simple:

Emma and Gavin _____ live in London.
16. I don't like bananas. [Nie lubie bananów] Zamień zdanie na formę przeczącą - napisz całe zdanie

I like bananas.
17. Connor doesn't lives in Poland. [Connor nie mieszka w Polsce] Zamień zdanie na formę przeczącą - napisz całe zdanie

Connor lives in Poland.
18. Holly doesn't play computer games. [Holly nie gra w gry komputerowe] Zamień zdanie na formę przeczącą - napisz całe zdanie

Holly plays computer games.
19. Emma and Connor don't speak Polish. [Emma i Connor nie mówią po polsku] Zamień zdanie na formę przeczącą - napisz całe zdanie

Emma and Connor speak Polish.
20. Gavin doesn't work in a supermarket. [Gavin nie pracuje w supermarkecie] Zamień zdanie na formę przeczącą - napisz całe zdanie

Gavin works in a supermarket.
21. She doesn't [Czy Emma lubi gry komputerowe? Nie, nie lubi] Uzupełnij dialog krótkimi odpowiedziami.

Does Emma like computer games?
No, _____.
22. They do [Czy Gavin i Connor grają w piłkę? Tak, Oni grają] Uzupełnij dialog krótkimi odpowiedziami.

Do Gavin and Connor play football?
Yes, _____.

23. She doesn't [Czy mama pracuje w supermarkecie? Nie, nie pracuje] Uzupełnij dialog krótkimi odpowiedziami.

Does Mum work in a supermarket?
No, _____.
24. He doesn't [Czy Ben uczy się angielskiego? Nie, nie uczy się] Uzupełnij dialog krótkimi odpowiedziami.

Does Ben study English?
No, _____.
25. We do [Czy my słuchamy muzyki? Tak, słuchamy] Uzupełnij dialog krótkimi odpowiedziami.

Do we listen to music?
Yes, _____.
26. like [Czy Holly lubi piłkę nożną?] Uzupełnij pytanie:

Does Holly _____ football?
27. watch [Czy my oglądamy telewizję?] Uzupełnij pytanie:

Do we _____ television?
28. Does [Czy Emma mieszka w Oxfordzie?] Uzupełnij pytanie:

_____ Emma live in Oxford?
29. Do [Czy lubisz dżem?] Uzupełnij pytanie:

_____ you like jam?
30. read [Czy Connor czyta książki w łóżku?] Uzupełnij pytanie:

Does Connor _____ books in bed?
31. Emma doesn't like spiders [Emma nie lubi pająków] Ułóż wyrazy w kolejności, żeby ułożyć zdanie

Emma/spiders/like/doesn't
32. Connor doesn't get up at 7 o'clock [Connor nie wstaje o siódmej rano] Ułóż wyrazy w kolejności, żeby ułożyć zdanie

get up/at/7 o'clock/Connor/doesn't
33. Gavin doesn't live in Warsaw [Gavin nie mieszka w Warszawie] Ułóż

wyrazy w kolejności, żeby ułożyć zdanie

live/Gavin/Warsaw/doesn't/in

34. We don't play football after school. [My nie gramy w piłke po szkole] Ułóż wyrazy w kolejności, żeby ułożyć zdanie

play/football/after/We/school/don't
35. I don't watch television. [Nie oglądam telewizji] Ułóż wyrazy w kolejności, żeby ułożyć zdanie

television/I/don't/watch
36. Do you like hot dogs? No, I don't. [Czy lubisz hot dogi? Nie, nie lubię] Ułóż wyrazy w kolejności, żeby ułożyć zdanie

I/do/don't/you/like/hot dogs?/no,
37. Does Holly play the piano? Yes, She does. [Czy Holly gra na pianinie? Tak, gra] Ułóż wyrazy w kolejności, żeby ułożyć zdanie

Holly/yes,/she/does/play/the piano?/does
38. Does Gavin surf the net? Yes, he does. [Czy Gavin serfuje po internecie? Tak, serfuje] Ułóż wyrazy w kolejności, żeby ułożyć zdanie

does/yes,/he/surf/Gavin/does/the net?
39. Do they live in Wales? No, they don't. [Czy oni mieszkają w Walii? Nie, nie mieszkają] Ułóż wyrazy w kolejności, żeby ułożyć zdanie

do/they/live/don't/they/in/Wales/no,
40. Do you study English? Yes, I do. [Czy ty uczysz się angielskiego? Tak, uczę się] Ułóż wyrazy w kolejności, żeby ułożyć zdanie

I/yes,/study/do/you/do/English?

2nd set of material

1. is listening [Holly słucha nauczyciela.] Wpisz odpowiednią frazę z listy w

puste miejsce.
 is listening/ are listening/ am listening

Holly _____ to the teacher.

2. are running [Connor i Ben grają w parku.] Wpisz odpowiednią frazę z listy w puste miejsce.
 is running/ are running/ am running

Connor and Ben _____ in the park.
3. am playing [Gram w grę komputerową] Wpisz odpowiednią frazę z listy w puste miejsce.
 is playing/ am playing/ are playing

I _____ a computer game.
4. is reading [Gavin czyta komiks na placu zabaw] Wpisz odpowiednią frazę z listy w puste miejsce.
 is reading/ am reading/ are reading

Gavin _____ a comic in the playground.
5. are watching [My oglądamy nasz ulubiony program] Wpisz odpowiednią frazę z listy w puste miejsce.
 is watching/ am watching/ are watching

We _____ our favorite programme.
6. Are [Czy uczniowie słuchają?] Wpisz odpowiednią frazę z listy w puste miejsce.
 Is/Am/Are

 _____ the students listening?
7. Is [Czy Emma płacze?] Wpisz odpowiednią frazę z listy w puste miejsce.
 Is/Am/Are

_____ Emma crying?
8. Are [Czy my mówimy po angielsku?] Wpisz odpowiednią frazę z listy w puste miejsce.
 Is/Am/Are

_____ we speaking English?
9. Am [Czy ja idę do kina?] Wpisz odpowiednią frazę z listy w puste miejsce.
 Is/Am/Are

_____ I going to the cinema?
10. Is [Czy Gavin czyta komiks?] Wpisz odpowiednią frazę z listy w puste

miejsce.
 Is/Am/Are

_____ Gavin reading a comic?

11. doing [Co robisz?] Wpisz jedno ze słów w puste miejsce w zdaniu.playing / doing / I'm / Are / am

What are you _____ .

12. playing [Gram w grę komputerową] Wpisz jedno ze słów w puste miejsce w zdaniu.playing / doing / I'm / Are / am

I'm _____ a computer game.

13. Are [Czy ty wygrywasz?] Wpisz jedno ze słów w puste miejsce w zdaniu.playing / doing / I'm / Are / am

 _____ you winning?

14. am [Tak, wygrywam. Co ty robisz?] Wpisz jedno ze słów w puste miejsce w zdaniu.playing / doing / I'm / Are / am

Yes, I _____. What are you doing?

15. I'm [Ja piszę list.] Wpisz jedno ze słów w puste miejsce w zdaniu.playing / doing / I'm / Are / am

 _____ writing a letter.

16. is sitting [Emma siedzi na kanapie w dużym pokoju.] Wpisz jedno ze słów w puste miejsce w zdaniu. Zmień formę gramatyczną!sit / play / listen / watch / write

Emma _____ on the sofa in the living room.

17. are playing [Gavin i Connor grają na komputerze.] Wpisz jedno ze słów w puste miejsce w zdaniu. Zmień formę gramatyczną!sit / play / listen / watch / write

Gavin and Connor _____ games on the computer.

18. is listening [Holly słucha muzyki w jej sypialni.] Wpisz jedno ze słów w puste miejsce w zdaniu. Zmień formę gramatyczną!sit / play / listen / watch / write

Holly _____ to music in her bedroom.

19. are watching [Mama i tata oglądają film w telewizji.] Wpisz jedno ze słów w puste miejsce w zdaniu. Zmień formę gramatyczną!sit / play / listen / watch / write

Mum and Dad _____ a film on television.
20. am writing [Ja piszę list do przyjaciela.] Wpisz jedno ze słów w puste miejsce w zdaniu. Zmień formę gramatyczną!sit / play / listen / watch / write

I _____ an email to my friend.
21. Connor is not watching television. [Connor ogląda telewizję.] W zdaniu znajduje się błąd. Popraw go i napisz zdanie poprawnie.

Connor am not watching television.
22. Gavin and Emma are not running. [Gavin i Emma nie biegną.] W zdaniu znajduje się błąd. Popraw go i napisz zdanie poprawnie.

Gavin and Emma is not running.
23. They are not playing tennis. [Oni nie grają w tenisa.] W zdaniu znajduje się błąd. Popraw go i napisz zdanie poprawnie.

They am not playing tennis.
24. Holly is not speaking Polish. [Holly nie mówi po polsku.] W zdaniu znajduje się błąd. Popraw go i napisz zdanie poprawnie.

Holly are not speaking Polish.
25. I am not writing an email. [Ja piszę email.] W zdaniu znajduje się błąd. Popraw go i napisz zdanie poprawnie.

I is not writing an email.
26. I am sleeping in the bedroom. [Śpię w sypialni.] Ułóż wyrazy w kolejności

 sleeping / in the / bedroom. / I / am
27. Emma is watching her favorite programme. [Emma ogląda jej ulubiony program.] Ułóż wyrazy w kolejności

 Emma / is / her / programme. / watching / favorite

28. Ben is sleeping in the living room. [Ben śpi w dużym pokoju.] Ułóż wyrazy w kolejności

 is / sleeping / in the / Ben / living room.
29. They are playing football in the park. [Oni grają w piłkę w parku.] Ułóż wyrazy w kolejności

 football / park. / in the / playing / They / are
30. We are sitting on the sofa. [My siedzimy na kanapie.] Ułóż wyrazy w kolejności

 We / are / on the / sofa. / sitting
31. I am not listening to music. [Nie słucham muzyki.] Ułóż wyrazy w kolejności

 music. / I / listening / am not / to
32. Holly is not singing in the kitchen. [Holly nie śpiewa w kuchni.] Ułóż wyrazy w kolejności

 kitchen. / Holly / singing / in the / is not
33. Ben is not sleeping in the garden. [Ben nie śpi w ogrodzie.] Ułóż wyrazy w kolejności

 Ben / garden. / sleeping / in the / is not
34. They are not writing a letter. [Oni nie piszą listu.] Ułóż wyrazy w kolejności

 They / letter. / are not / writing / a
35. We are not playing computer games. [My nie gramy w gry komputerowe.] Ułóż wyrazy w kolejności

 We / computer / playing / games. / are not
36. Are you sleeping? No, I'm not. [Czy ty śpisz? Nie, nie śpię.] Ułóż wyrazy w kolejności

 you / Are / sleeping? / I'm / No, / not.
37. Is Dad swimming? Yes, he is. [Czy tata pływa? Tak, on pływa.] Ułóż wyrazy w kolejności

 Yes, / Is / he / Dad / is. / swimming?
38. Are Emma and Holly singing? Yes, they are. [Czy Emma i Holly śpiewają? Tak, one śpiewają.] Ułóż wyrazy w kolejności

 singing? / Yes / they / Are / are. / Emma and / Holly

39. Is Connor playing football? No, he isn't. [Czy Connor gra w piłkę? Nie, on nie gra.] Ułóż wyrazy w kolejności

 Is / he / No, / isn't / Connor / football? / playing

40. Are you reading? Yes, I am. [Czy ty czytasz? Tak, czytam] Ułóż wyrazy w kolejności

 I / reading? / am. / you / Are / Yes,

3rd set of material

1. was [Gavin był w Walii na wakacjach] Wybierz prawidłową odpowiedź:

 Gavin _____ in Wales on holiday.
 was / were / am

2. was [Tata był mistrzem kiedy był młody.] Wybierz prawidłową odpowiedź:

 Dad _____ a champion when he was a boy.
 was / are / were

3. were [Byliśmy w klasie 5 w zeszłym roku.] Wybierz prawidłową odpowiedź:

 We _____ in class 5 last year.
 was / is / were

4. were [Byłeś w parku wczoraj.] Wybierz prawidłową odpowiedź:

 You _____ in the park yesterday.
 is /was / were

5. was [Byłem w Warszawie w zeszłym tygodniu.] Wybierz prawidłową odpowiedź:

 I _____ in Warsaw last week.
 was / am / were

6. were [Byliśmy w szkole wczoraj.] Uzupełnij zdania odpowiednią formą czasownika be w czasie Past Simple:

We _____ at school yesterday.

7. was [Byłem w domu o 10 zeszlej nocy.] Uzupełnij zdania odpowiednią formą czasownika be w czasie Past Simple:

I _____ at home at 10 o'clock alst night.

8. were [Emma i Connor byli w Oxfordzie w zeszłą sobotę.] Uzupełnij zdania

odpowiednią formą czasownika be w czasie Past Simple:

Emma and Connor _____ in Oxford last Saturday.

9. were [Ty byłeś w klasie rano.] Uzupełnij zdania odpowiednią formą czasownika be w czasie Past Simple:

You _____ in the classroom this morning.

10. was [Mama była dobrą uczennicą w szkole.] Uzupełnij zdania odpowiednią formą czasownika be w czasie Past Simple:

Mum _____ a good student at school.

11. Gavin was not at school yesterday. [Gavin nie był w szkole wczoraj.] Ułóż podane wyrazy w kolejności:

 yesterday / not / school / Gavin / was / at

12. You and I were not at home today. [Ty i ja nie byliśmy w domu dziś.] Ułóż podane wyrazy w kolejności:

not / at / home / You and I / today / were

13. Dad was not a good student. [Tata nie był dobrym uczniem.] Ułóż podane wyrazy w kolejności:

student / Dad / not / a / was / good

14. He was not a chamption. [On nie był mistrzem.] Ułóż podane wyrazy w kolejności:

a / he / not / champion / was

15. We were not in New York last month. [My nie byliśmy w Nowym Jorku w zeszłym miesiącu.] Ułóż podane wyrazy w kolejności:

in / we / last month / were / New York / not

16. Holly wasn't at school today. [Holly nie było w szkole dziś.] Przepisz zdanie używając form skróconych:

Holly was not at school today.

17. You weren't in the park yesterday. [Nie było cię wcozraj w parku.] Przepisz

zdanie używając form skróconych:

You were not in the park yesterday.

18. I wasn't at home last weekend. [Nie było mnie w domu w zeszły łikend.] Przepisz zdanie używając form skróconych:

I was not at home last weekend.

19. They weren't in Scotland last week. [Nie było ich w Szkocji w zeszłym tygodniu.] Przepisz zdanie używając form skróconych:

They were not in Scotland last week.

20. The teacher wasn't in the classroom this afternoon. [Nauczyciel nie był w klasie tego popołudnia.] Przepisz zdanie używając form skróconych:

The teacher was not in the classroom this afternoon.

21. Yes, he was. [Czy tata był mistrzem? Tak, był.] Napisz krótkie odpowiedzi na pytania według podanych wskazówek.

Was dad a champion? _____

(yes)

22. Yes, they were. [Czy Emma i Holly były spóźnione na lekcje? Tak, były.] Napisz krótkie odpowiedzi na pytania według podanych wskazówek.

Were Emma and Holly late for class? _____

 (yes)

23. No, he wasn't. [Czy Gavin był w Szkocji w zeszłym tygodniu? Nie, nie był.] Napisz krótkie odpowiedzi na pytania według podanych wskazówek.

Was Gavin in Scotland last week? _____

 (no)

24. Yes, he was. [Czy Connor był w klasie 5 w zeszłym roku? Tak, był.] Napisz krótkie odpowiedzi na pytania według podanych wskazówek.

Was Connor in class 5 last year? _____

(yes)

25. No, I wasn't. [Czy byłem dzisiaj w parku? Nie, nie byłem.] Napisz krótkie odpowiedzi na pytania według podanych wskazówek.

Was I in the

park today? _____

 (no)

26. Was [Czy mama była w pracy w Sobotę?] Wybierz prawidłową odpowiedź:

_____ Mum at work on Saturday?
 was / were / am
27. Were [Czy byliśmy na basenie wczoraj?] Wybierz prawidłową odpowiedź:

 _____ we at the swimming pool yesterday?
 was / are / were
28. Were [Czy Gavin i Emma byli w klasie 5 w zeszłym roku?] Wybierz prawidłową odpowiedź:

 _____ Gavin and Emma in class 5 last year?
 was / is / were
29. Was [Czy CD UK było w telewizji wczoraj wieczorem?] Wybierz prawidłową odpowiedź:

 _____ CD UK on TV last night?
 is /was / were
30. Was [Czy pies był w kuchni?] Wybierz prawidłową odpowiedź:

 _____ the dog in the kitchen?
 was / am / were
31. can [Gavin potrafi żaglować i wiosłować.] Ułóż zdanie z can zgodnie ze wskazówką:

Gavin _____ sail and row.

(yes)
32. can't || cannot [Connor nie potrafi mówić po polsku.] Ułóż zdanie z can zgodnie ze wskazówką:

Connor _____ speak Polish.

(no)
33. can [Holly i Emma potrafią grac w tenisa.] Ułóż zdanie z can zgodnie ze wskazówką:

Holly and Emma _____ play tennis.

(yes)
34. can't || cannot [Ben nie potrafi grać w piłkę nożną.] Ułóż zdanie z can zgodnie ze wskazówką:

Ben _____ play football.

(no)
35. can [Mama otrafi jeździć konno.] Ułóż zdanie z can zgodnie ze wskazówką:

Mum _____ ride a horse.

(no)
36. Can you do karate? Yes, I can. [Czy ty znasz karate? Tak, znam.] Ułóż

podane wyrazy w kolejności:

 you / I / can. / Can / do karate? / Yes,

37. Can Dad run fast? No, I can't. [Czy tata umie szybko biegać? Nie, nie umie.] Ułóż podane wyrazy w kolejności:

 can't. / run / Dad / fast? / he / No, / Can

38. Can Gavin skate? No, he can't. [Czy Gavin umie jeździć na łyżwach? Nie, nie umie.] Ułóż podane wyrazy w kolejności:

 skate? / Can / No, / can't. / he / Gavin

39. Can Holly and Emma climb? Yes, they can. [Czy Holly i Emma umieją się wspinać? Tak, umieją.] Ułóż podane wyrazy w kolejności:

 they / Emma / climb? / Holly and / can. / Yes, / Can

40. Can Ben swim? Yes, he can. [Czy Ben umie pływać? Tak, umie.] Ułóż podane wyrazy w kolejności:

 he / can. / swim? / Can / Ben / Yes,

41. can [Tato, umiesz jeździć na nartach?] - Dad, _____ you ski?
I was / was / Yes / Were / can

42. Yes [Tak, umiem.] - _____, I can.
I was / was / Yes / Were / can

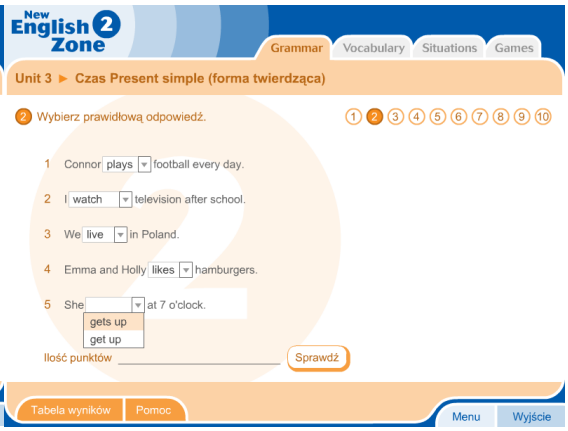
43. was [Czy jesteś dobry w jeżdżeniu na nartach? Tak, Byłem bardzo dobry w jeździe na anrtach kiedy byłem młody!] - Are you good at skiing?
 - Yes, I _____ very good at skiing when i was young!
I was / was / Yes / Were / can

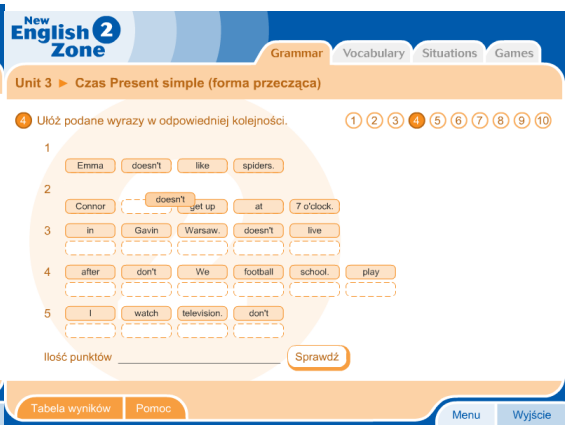
44. Were [Byłeś mistrzem?] - _____ you a champion?
I was / was / Yes / Were / can

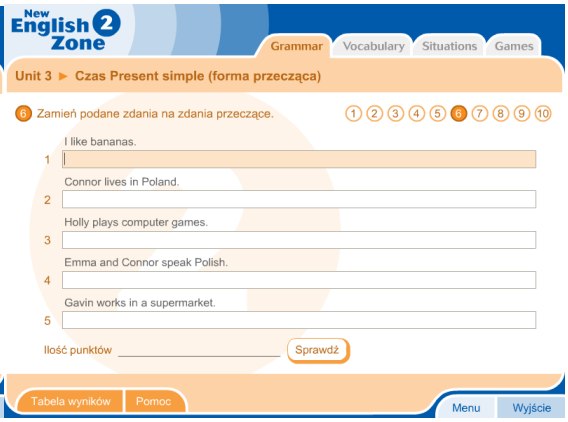
45. I was [Tak, byłem.] - Yes, _____.
I was / was / Yes / Were / can

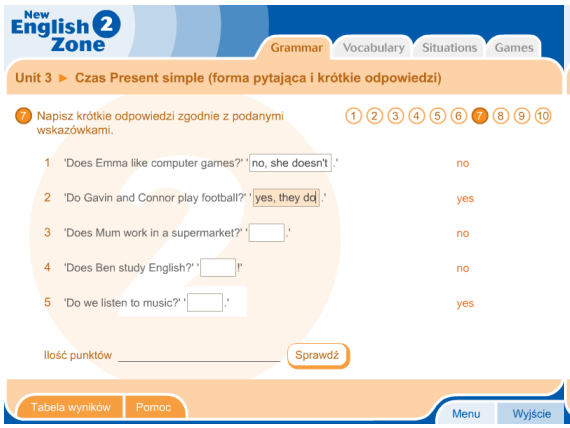
Appendix B: Examples of NEZ exercises

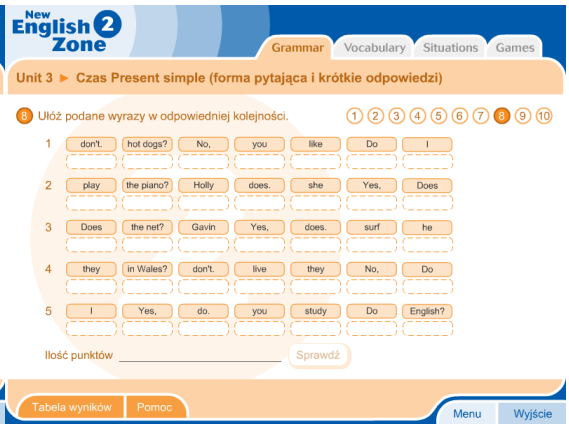
A typical NEZ set of exercises for a single unit of the book is presented below (from Unit 3). Additional examples are included on New English Zone 2 Interactive CD-ROM.

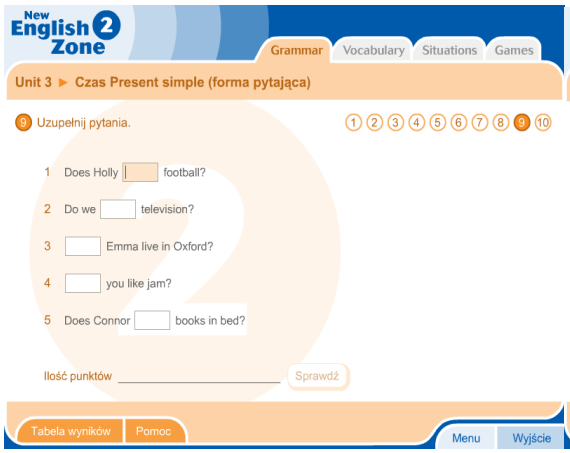







New English Zone 2
Grammar Vocabulary Situations Games
Unit 3 ► Czas Present simple (forma pytająca i krótkie odpowiedzi)
7 Napisz krótkie odpowiedzi zgodnie z podanymi wskazówkami.
1 2 3 4 5 6 7 8 9 10
1 'Does Emma like computer games?' 'no, she doesn't.' no
2 'Do Gavin and Connor play football?' 'yes, they do.' yes
3 'Does Mum work in a supermarket?' '.' no
4 'Does Ben study English?' '.' no
5 'Do we listen to music?' '.' yes
Ilość punktów
Sprawdź
Tabela wyników Pomoc Menu Wyjście


New English Zone 2
Grammar Vocabulary Situations Games
Unit 3 ► Czas Present simple (forma pytająca i krótkie odpowiedzi)
8 Ułóż podane wyrazy w odpowiedniej kolejności.
1 2 3 4 5 6 7 8 9 10
1 don't. hot dogs? No, you like Do I
2 play the piano? Holly does. she Yes, Does
3 Does the net? Gavin Yes, does. surf he
4 they in Wales? don't. live they No, Do
5 I Yes, do. you study Do English?
Ilość punktów
Sprawdź
Tabela wyników Pomoc Menu Wyjście


New English Zone 2
Grammar Vocabulary Situations Games
Unit 3 ► Czas Present simple (forma pytająca)
9 Uzupełnij pytania.
1 2 3 4 5 6 7 8 9 10
1 Does Holly [ ] football?
2 Do we [ ] television?
3 [ ] Emma live in Oxford?
4 [ ] you like jam?
5 Does Connor [ ] books in bed?
Ilość punktów
Sprawdź
Tabela wyników Pomoc Menu Wyjście


New English Zone 2
Grammar Vocabulary Situations Games
Unit 3 ► Czas Present simple (wszystkie formy)
10 Wstaw podane wyrazy w odpowiednie miejsca.
1 2 3 4 5 6 7 8 9 10
A I [ ] music.
B Me too!
A [ ] you listen to music after school?
B [ ], I do.
A Do you [ ] the piano?
B No, I [ ].
Yes
Do
play
don't
like
Ilość punktów
Sprawdź
Tabela wyników Pomoc Menu Wyjście

Appendix C: Test Results

Student Identifier	Group	Previous Tests	Test 1	Test 2	Test 3
AM01T	Tester	4.93	4.47	5	4.58
AK02T	Tester	4.65	5	4.9	4.39
AM03T	Tester	4.65	4.07	4.5	4.18
AD04T	Tester	4.6	4.73	5	4.52
AC05T	Tester	3.98	4.87	4.8	4.36
AL06T	Tester	3.83	4.33	5	3.91
AG07T	Tester	3.6	4.07	4.3	4.39
AW08T	Tester	3.6	3.27	4.4	3.73
DW01N	NEZ	4.93	4.87	4.3	5
DH02N	NEZ	4.43	4.2	3.9	4.09
DM03N	NEZ	4.25	3.67	4.7	3.18
DA04N	NEZ	4.25	4.6	4.8	3.61
DS05N	NEZ	4.15	4.33	4.3	4.09
DR06N	NEZ	4.1	4.33	4.6	4.21
DB07N	NEZ	4	3.8	5	4.39
DP08N	NEZ	3.77	4.33	4	4.45
CL01C	Control	5	4.47	4.4	3.76
CC02C	Control	4.65	3.8	4.5	4.45
CM03C	Control	4.43	4.47	4.9	3.97
CE04C	Control	4.43	4.47	4.5	4.45
CW05C	Control	4.35	4.86	4.9	3.97
CD06C	Control	4.08	4.2	4.3	3.88
CD07C	Control	3.6	3.27	4.5	3.97
CP08C	Control	3.58	4.2	4.5	4.33

References

Ahmad, K., G. Corbett, M. Rogers, R. Sussex. 1985. *Computers, language learning and language teaching*. Cambridge: Cambridge University Press.

Baumgartner, Peter, Sabine Payr. 1996. "Learning as Action: A Social Science Approach to the Evaluation of Interactive Media". In P. Carslon, F. Makedon, 31-37.

Baumgartner, Peter, Sabine Payr. 1998. "Learning with the Interner: A Typology of Applications". Precedings of ED-MEDIA/ED-TELECOM 98 World Conference on Educational Telecommunications, Freiburg, 20-25 June 1998.

Bax, Stephen. 2003. "CALL — past, present and future". *System* 31, 13–28.

Brown, E. (ed.). 1988. *Learning languages with technology*. Warwick: MESU (now BECTA).

Carslon P., F. Makedon. 1996. *Proceedings of ED-MEDIA 96 - World Conference on Educational Multimedia and Hypermedia*. Charlottesville: AACE.

Davies G., J. Higgins. 1985. *Using computers in language learning: a teacher's guide*. London: CILT.

Fotos, S. (ed.). 1996. *Multimedia language teaching*. Tokyo: Logos International.

Hardisty D., S. Windeatt. 1989. CALL. Oxford: Oxford University Press.

Johnson, Robert. 1984. *Elementary statistics*. (4th edition.) Boston: PWS-KENT.

Jones C., S. Fortescue. 1987. *Using computers in the language classroom*. Harlow: Longman.

Jones G. 1986. "Computer simulations in language teaching - the KINGDOM experiment". *System* 14, 179-186.

Levy, M. 1997. *CALL: context and conceptualisation*. Oxford: Oxford University Press.

Taylor, R. 1980. *The computer in the school: tutor, tool, tutee*. New York: Teachers College Press.

Underwood J. 1984. *Linguistics, computers and the language teacher: a communicative approach*. Rowley, MA: Newbury House.

Warschauer, Mark. 1996. "Computer Assisted Language Learning: an Introduction". In S. Fotos (ed.). 3-20.

Warschauer, M., D. Healey. 1998. "Computers and language learning: An overview". *Language Teaching* 31, 57-71.

Warschauer, M. 2000. "The death of cyberspace and the rebirth of CALL". *English Teachers' Journal* 53, 61-67.

Internet Sources

IS1. "Hot Potatoes Home Page". Retrieved from http://hotpot.uvic.ca/ on 12. June 2007.

IS2. "ICT4LT Project: Evaluation Forms". Retrieved from http://www.ict4lt.org/en/evalform.doc on 12. June 2007.

IS3. Davies, Graham (ed.). Information and Communications Technology for Language Teachers (ICT4LT). Slough: Thames Valley University. Retrieved from http://www.ict4lt.org on 12. June 2007.

IS4. Davies, Graham. "CALL (computer assisted language learning)". Retrieved from http://www.llas.ac.uk/resources/goodpractice.aspx?resourceid=61 on 12. June 2007.

IS5. Davies, Graham. "ICT4LT Module 1.4 Introduction to Computer Assisted

Language Learning". In Graham Davies (ed.). Retrieved from http://www.ict4lt.org/en/en_mod1-4.htm on 12. June 2007.

IS6. Spanou, Kiraki. “Computer-Assisted Language Learning: A story that goes long back”. Retrieved from http://www.tesolgreece.com/nl/71/7103.html on 12. June 2007.

IS7. Winke, Paula, David MacGregor. "Hot potatoes review". Retrieved from http://llt.msu.edu/vol5num2/review3/default.html on 12. June 2007.