DEUTSCH 1, 2, 3!!

**An interactive, multimedia, web-based program for the German
Foreign Language classroom**

**Thesis presented in partial fulfillment of the requirements for the degree of MPhil
in Hypermedia for Language Learning at the University of Stellenbosch**

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Declaration

I, the undersigned, hereby declare that the work contained in this thesis is my own original work and that I have not previously in its entirety or in part submitted it at any university for a degree.

Signature: _____ (Elisabeth Johannes)

Date: 27 August, 2007

Abstract:

This thesis presents the planning and development of a multimedia application appropriate for Computer-Assisted Language Learning (CALL) in a self-access environment for German Second Additional Language Grade 10. It entails learning through listening and viewing comprehension and other tasks for CALL. The application is based on a communicative language teaching and learning framework as well as deriving its theoretical principles from Cognitive and Constructivist Learning Theories. It is set against a background of research into the complexities of listening and viewing, individual learner differences and learning styles, characteristics of self-directed and autonomous learning and user-friendly instructional software design.

Opsomming:

Hierdie tesis verteenwoordig die beplanning en ontwikkeling van 'n multimedia program, geskik vir Computer-Assisted Language Learning (CALL), in 'n self-toeganklike omgewing vir Duits Tweede Addisionele Taal Graad 10. Dit behels luisterbegrip, leesbegrip en ander take vir CALL. Die program is gebaseer op 'n kommunikatiewe leer- en onderrig raamwerk, sowel as om van die teoretiese beginsels van Kognitiewe en Konstruktiewe Leerteorieë te gebruik. Dit word gestel teen die agtergrond van navorsing oor die kompleksiteit van Luister en Kyk, individuele leerdersverkille en leerstyle, eienskappe van selfgerigte en outonomiese leermetodes, asook gebruikersvriendelike instruktiewe sagteware ontwerp.

Acknowledgements

I am indebted to a number of people who helped me in conducting this study:

List of Abbreviations:

ICT	Information and Communications Technology
CBL	Computer-Based Learning
CALL	Computer Assisted LanguageLearning
CALT	Computer-Assisted Language Teaching
NCS	National Curriculum Statement
SAL	Second Additional Language
SLA	Second Language Acquisition
CEFR	Common European Framework of Reference for Languages: Learning, Teaching, Assessment

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CHAPTER 1
Introduction

1. Perceived needs

Traditional teaching methods and with this traditional teaching aids have constantly been challenged ever since the communicative approach to language teaching began to emerge. The communicative and the different post-communicative approaches (e.g. Intercultural Language Teaching) have, over the last decades, emphasized the importance of key concepts such as communicative competence, learning in context, authenticity of materials used and the development of study and learner skills. These keywords tend to indicate a shift from product-oriented to process-oriented learning, a shift from a teacher-centered to a learner-centered teaching approach. (Neuner und Hunfeld, 1993)

It is commonly agreed that school should prepare learners for their later lives and functions in society, no matter whether learners are to be directly prepared for the job market or for academic study. However, teachers find it ever more difficult to adapt to the rising demands made by our society on education and learning. They are expected to adapt to rapid changes caused by the mass of readily available, but also changeable information, and constant changes in the environment around them. In the job market of today flexibility, self reliance and the readiness for life-long learning are qualities increasingly sought. Is it, in fact, possible to teach these qualities? If so, how can teachers react promptly in their teaching techniques to the rapid changes occurring in today's society?

When German is taught as a truly foreign language, which is definitely the case in most schools in South Africa, there is virtually no incidental contact with that language outside the classroom as would be the case in a European country, (i.e. where German is taught as a second rather than a foreign language). In these countries one can fairly readily find radio and television stations broadcasting in German. In South Africa however, there are only a few small German-speaking communities. Listening to the German Channel: "Deutsche Welle" on DSTV is almost the only exposure a learner might have to "spoken German".

A beginner language course for German at a normal governmental secondary school typically has a maximum of about 80 class hours (in Grade 7/8/9) or 160 class hours (in Grade 10-12) per year. If the teacher is to provide students with maximum opportunity to develop communicative skills in class, through pair-work, simulation or role-play activities in an unthreatening but monitored environment, ways must be found to allow students to work productively on receptive skills and language systematization outside the classroom.

In order to find the best possible answers to the above raised educational demands, I feel that the most appropriate means and technological aids available at any time should be used to their best advantage. New emerging technologies to assist learning, including ICT (Information and Communications Technology) and multimedia applications can have an influence on existing teaching and learning methods and complement them in many ways.

Therefore, the specific uses of the available methods and media have to be reconsidered. It is very possible that new forms of media, for example multimedia and telecommunication, might be more appropriate for a particular task, while the good old textbook and exercise book do a far better job in other areas.

Reading, listening to pronunciations (of e.g. vocabulary) or listening/viewing comprehension is one group of activities which can to a large extent be freed from close teacher supervision. Often classes tend to be large, with 30-40 learners starting off the course, and it would help teachers considerably to make use of computer material delivered via a website or on CDRom to support their work, not only to achieve the learning outcomes but also to stimulate the learners enough to continue with more in depth language learning of the language later on. Learners with vocabulary problems can practice at home, repeating some of the questions and working at their own pace.

1.1 The need for an interactive, multimedia, web-based program

The face of education is changing on a global scale. Information and Communication Technology (ICT) is at the core of this metamorphosis (Department of Education, 2003a). The National Department of Education published a Draft White Paper on e-Education in August 2003 subtitled "Transforming Learning and Teaching through Information and Communication Technologies" in recognition of this global trend. The draft policy heralds the use of ICT's as "a key for teaching and learning in the 21st century" (Department of Education, 2003a).

This enthusiastic approach to the integration of computers in education should be welcomed. New emerging technologies can assist learning and should be integrated into the school curriculum. In some instances multimedia and telecommunications might be very appropriate for a particular task.

However, the inherent risk is to shift the main focus to the technological challenge, instead of remaining focused on enhanced education. Developers of computer-assisted instructional material should have a sound theoretical foundation of education on which to build. This theoretical foundation should take into account the interdisciplinary nature of computer-assisted learning, incorporating theories of language learning and teaching with theories of learning psychology and instructional design. (Chapelle, 1998; Gonzalez-Lloret, 2003 Hegelheimer, 2000) Interesting and well-planned tasks, projects, and resources provide a key to harnessing the educational potential of digital resources and interactive multimedia to engage the interest, interaction and knowledge construction of learners.

1.2 Research question

The problem to be addressed in this study is the following:

> "Can a multimedia application for German as a Foreign Language consisting of a series of exercises be developed taking the requirements of the NCS SAL Gr 10 into consideration?"

1.3 Purpose of this program

The aim is to develop an interactive, multimedia, web-based program that will develop proficiency in specific aspects like reading comprehension, listening comprehension and knowledge of vocabulary in German as a Second Additional Language. (SAL) The multi-media application will take the form of an application for use by Secondary School Grade 10 learners for German instruction in a South African context. Learners of Grade 9, who are achieving good results, might also be able to use it. These learners should have covered the very "basics" of the language vocabulary and grammar after two years of learning the language.

1.4 Research Methodology and Design

The approach adopted in order to find an answer to the above question falls into two main areas.

To begin with, a selective overview of the theories of learning, (Cognitive and Constructivist), Computer–Assisted Language Learning (CALL), and general research in Language Learning is given. A short description of the current syllabus requirements for German as Second Additional Language (NCS SAL) for Grade 10 is included.   The Communicative Approach, which forms the foundation of this framework, is outlined. In order to form one's own individual framework for Computer-Based Learning a basic knowledge of the current theories of learning and current research in Language Learning may help bridging the gap between theory and practice by providing a sound basis for the teacher's reflection.

After this, there is a more specific part on the practical software development which is divided into two categories, namely content development and technical design. The influence of theory and context is linked with the five step model for the development of computer based instructional materials, including:

Concepts ⟶ *Specification* ⟶ *Design* ⟶ *Implementation* ⟶ *Delivery*

Research on language learning and language teaching, CALL and web design/ Instructional design underpin the design and development of the material. The actual language assessments, with inclusion of the learning outcomes, are presented in a chapter thereafter. A conclusion follows, with a summary of what is hoped to be achieved.

The method for this research used is reading, drawing conclusions and thereafter putting this into practice in a multimedia programme, where students should be able to engage in meaningful learning and purposeful language use: language in context, communication for a reason, tasks that are real-life activities which should make sense to students as well as motivate them. At the same time these exercises should serve as revision material, helping students to revise vocabulary and pronunciation, and practice their listening and reading skills.

Chapter 2

Theoretical Framework

2.1 Introduction

For a number of reasons teachers often find it hard to find the link between theories of learning and everyday teaching practice. In order to find one's own individual framework for Computer-Based Language Learning a basic knowledge of the current theories of learning and current research in General Language Learning and SAL may offer help in bridging the gap between theory and practice. A short overview of the current National Curriculum Statement for Second Additional Language,
(NCL SAL) for Grade 10 is given. The Communicative Approach forms the foundation of this program. This approach concentrates on developing communicative skills to enable the learner to engage in meaningful activities with other speakers. It is designed with a clear purpose and realistic objectives so that a language learning experience can be developed.

Deutsch 1, 2, 3!!			
Cognitive and Constructivist Learning theories	Computer-Assisted Language Learning (CALL)	Language Learning (LL)	NCS: SAL Gr 10
The Communicative approach			
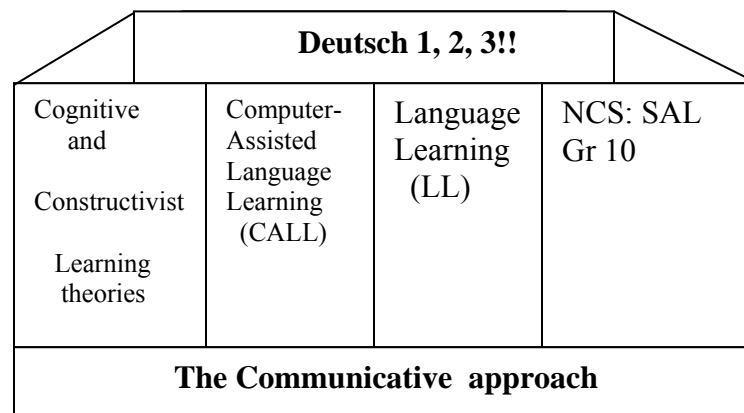
Figure 1: Components of the Theoretical Framework

2.2 Theories of teaching and learning

2.2.1 Cognitive and Constructivist Learning Theories

Cognitive and Constructivist learning theories emphasize the importance of developing learning competence. In order to develop learning competence it is necessary to take into account the multi-faceted nature of both Cognitive and Constructivist Learning theories. (Rüschoff, 2003)

The following aspects of both these Learning Theories contribute considerably to the program design and development:

- learning must be regarded as an active and collaborative process of knowledge construction;
- learning is to be seen as an autonomous process, to be regulated by the learners' expectations, goals, existing schema and intentions;
- learning is a process of experimentation, based on previous knowledge and experience;
- learning is a process of socially negotiated construction of meaning;
- learning is a process which must be supported by a rich learning environment rooted in real life and authentic situations (Rüschoff, 2003; Wolff,1996)

In this type of context, learning is a process which differs from individual to individual, and should be an autonomous process. It is to be understood as a construction process formed by the learner, where both incoming stimuli and already available information are involved. Being a discovery process, but based on previous knowledge and experience, it is constantly in an area of tension between formulating and testing. It is a process which thrives on a rich and authentic learning environment.

These different aspects of learning and the learning process necessitate that certain changes take place within teaching. Wolff (1996) suggests that teaching involves:

- The use of authentic material; the use of unabridged material gives the learner more opportunity to connect his/her knowledge with new knowledge
- The development of skills and knowledge which can be used in real life

- The creation of an autonomous and complex learning environment which corresponds with reality
- The construction of an awareness of the own knowledge construction process
- The independent choice and use of learning and working methods which support the learning process (promoting learner autonomy)

Learning is a search for meaning. Therefore, learning must start with the issues around which students are actively trying to construct meaning. But meaning requires understanding of wholes as well as parts, and parts must be understood in the context of wholes. Therefore, the learning process focuses on primary concepts, not isolated facts. The purpose of learning is for an individual to construct his/her own meaning, not just to memorize answers and regurgitate someone else's meaning.

In an article Jonassen (Jonassen cited in Mergel, 1998) points out that the difference between constructivist and objectivist (behavioral) instructional design is that objective design has a predetermined outcome and changes the learning process to map a predetermined concept of reality into the learner's mind, while constructivism maintains that because learning outcomes are not always predictable, instruction should foster, not control, but learning. With this in mind, Jonassen looks at the commonalties among constructivist approaches to learning to suggest a "model" for designing constructivist learning environments.

> ...a constructivist design process should be concerned with designing environments which support the construction of knowledge which…
>
> a) is based on internal negotiation
>
> b) is based on social negotiation
>
> c) is facilitated by exploration of Real World Environments and Intervention of New environments
>
> d) results in Mental Models and provides Meaningful, Authentic Context for learning and Using the Constructed Knowledge

e) requires an understanding of its Own Thinking Process and Problem Solving Methods   (Jonasson, cited in Mergel, 1998)]

He makes it clear that the new media, including multimedia and hypermedia, very often make it necessary for teachers to reconsider the role of illustrations, text, sound and graphics images. He suggests that this approach should take into consideration theoretical approaches modeled on the way the human brain works, such as associative and semantic networks. These processes should be supported by case-based problems which have been derived from and situated in the real world with all of its uncertainty and complexity and based on authentic real life practice.

The rise of the information age has led to the widespread use of information technology in practically all spheres of life, schools included, and thereby enabling learners to further enhance and take charge of their own learning. This means that creating online instructional material along cognitive and constructivist principles provide an important and sound theoretical framework with which to promote learner autonomy. Constructivism emphasizes the implementation of an integrated curriculum where students study a topic in various ways, and learners are taught to be self-regulated and by going beyond basic requirements, they are exploring different interests.

The next part of the chapter investigates the possibilities of CALL (Computer assisted language learning).

2.2.1 Computer assisted language learning

Computer-assisted language learning (CALL) is an approach to language teaching and learning in which computer technology is used as an aid to the presentation, reinforcement and assessment of material to be learned, usually including a substantial interactive element. (Wikipedia encyclopedia, 2006)

According to Warschauer & Healey (1998), the period in which the computer has been in use can be divided into three stages. Each stage corresponds to a certain level of technology and certain pedagogical theories.

- *Behaviorist CALL*

Based on the behaviorist learning model, the first form of computer-assisted Language Learning material featured repetitive language drills, the so-called drill-and-practice method.

- *Communicative CALL*

The followers of this learning model stressed that CALL should focus more on using forms rather than on the forms themselves. This form of computer-based instruction corresponded to cognitive theories which recognized that learning was a creative process of discovery, expression, and development.

- *Integrative CALL*

Integrative CALL seeks both to integrate the various skills of language learning (listening, speaking, writing, and reading) as well as integrating technology more fully into language teaching (Warschauer & Healey, 1998). To this end the multimedia-networked computer provides a range of informational, communicative, and publishing tools that are potentially available to every student. According to Warschauer (1996) Integrative CALL is entering a new phase. Through technological developments such as multimedia and the internet, Integrative CALL allows the computer to be used simultaneously as a tutor and as a tool (Warschauer, 1996).

A definition of both the terms "tool" and "tutor" might clarify the meaning of each. As a "tutor", the computer must evaluate students, and it is programmed to make evaluative decisions, such as whether an answer is right or wrong. Based on this evaluation, the computer could change the order or structure of the content, essentially directing the learning process. With the computer playing the role of the tutor, the role of the teacher is a very peripheral one. Comprehensive tutoring systems are intended to be used by individuals in self-access mode, and do not require the presence of a teacher. (Warschauer, 1996)

The computer can be used as a tutor to teach the following in Language teaching:

- Grammar

These programs include drill and practice on a single topic (e.g. Irregular verbs or definite and indefinite Articles), or drills on a variety of topics, (e.g. *The Grammar ROM- ESL)* Grammar units are often included in a number of comprehensive multimedia packages (e.g. *French Grammar studio*) (Davies, 2000).

- Listening

Most programs in this category are multimedia programs for second language learners (*Linc*) or multimedia programs for children (*The Animals*) (Davies, 2000).

- Pronunciation

In these programs students are allowed to record and playback their own voice and compare it to a model. (*Talk to me – Aurolog*) (Davies, 2000).

- Reading

Educational programs that can assist reading with the use of multimedia (*e.g. Now)* or normal reading programs designed for second language learners (*e.g. Reading Adventure 1 – ESL or The new Kid on the block*) fall into this category (Davies, 2000).

- Text reconstruction

Learners are allowed to manipulate letters, words, sentences or paragraphs in texts and they support reading, writing or discussion activities. (e.g. *Gapmaster, Eclipse)* (Davies, 1997).

- Vocabulary

Drill and practice programs (e.g. *Synonyms*), multimedia tutorials (English vocabulary) or games (*Quia*) fall into this category (Davies,1997).

- Variety of Functions

The learners can participate in a variety of functions, e.g. dialogues, recording his/her own voice, or matching it with the speaker/model. Often it is possible to explore each dialogue in more detail, seeking information on grammar, usage or cultural background and optional exercises are usually available (e.g. *Unterwegs – German beginners)* (Davies, 2000).

By contrast, the tool role for the computer is neutral and non-directive. The computer functions as a tool when it augments or improves the efficiency of the student's work. The computer program does not give any guidance; therefore the teacher plays a central role in directing the students to use the program to its fullest capacity.

The most common uses of the computer as a tool are the following:

- Word Processing

(*Microsoft Word, Microsoft Works*) – Both programs are useful for academic writing or business settings.

- Grammar Checkers

These programs are designed for native speakers and normally confusing to SAL Learners, since they point out problems believed typical of the native speaker/writer. (e.g. *Grammatik*) (Grüner und Hassert, 2000)

- Concordance

This software searches through huge files of texts in order to find all the uses of a particular word. They are usually confusing for beginners, but can be a wonderful tool for advanced students of language, linguistics or literature. (E.g. Oxford's *MicroConcord*) (Grüner und Hassert, 2000)

- Reference

CD versions of encyclopedias and dictionaries (e.g. *Encarta*) (Grüner und Hassert, 2000)

- Internet

Electronic mail (e-mail), MOO's (multiple user-domains Object Oriented) and the World Wide Web form the most popular use of the internet for language teaching. Moo's allow for real time communication, simulations and role playing among participants throughout the world. A connection to the internet is necessary as well as a browser to search the world wide web, or to send or receive e-mails.

In view of the above, there seems to be a lot of commercial material available, covering a variety of aspects for language learning. However, a program that would be designed for

the specific needs of Learners of German SAL in KwaZulu Natal in Grade 10 was necessary, which would serve as revision material in a self access environment.

In combining the functionality of the two roles of the computer, the developer wanted to create a learning program that would include both directive and evaluative components, as well as neutral, non-directive components.

2.2.2.1 Why should the language teacher be concerned with new technologies?

Technology, and more specifically the computer, is a powerful tool with the capacity to revolutionize language learning. CALL has the potential to enhance almost every facet of language learning, to create new arrangements for the presentation of information. Presentations can be made from different sources and different media; technology can individualize instruction, and can change patterns of use of lesson time and lesson programming. This creates a responsibility for the developer.

Some of the benefits of ICT that have been identified by teachers are as follows:

ICT offers a wide range of multimedia resources. At the same time it provides access to a rich resource of authentic materials, interaction as well as feedback to learners. (Grüner und Hassert, 2000)

Multimedia resources enable text, still images and audio to be combined in interesting and stimulating ways, both for presentation purposes in the classroom and for independent learning in a computer lab, using interactive computer programs. Unlike paper-based documents, multimedia documents can include not only text and pictures, but also audio and video clips and animations. This facility provides a rich environment within which to create activities for students, particularly for the modern languages teacher for whom the spoken word is at least as important as the written. Graphic cues can be used to reduce the likelihood of students having to go back to their source language or translation.

Interaction in a simple program might only involve the user in making choices which determine the route that they take through the software. The fact that the contents of the software are not displayed in their entirety the first time a student uses it, encourages students to go back to it several times to discover what else there is to do. It is of particular interest to the language teacher and learner in that it offers the opportunity to re-visit vocabulary and structures in new contexts.

Interaction also includes *feedback,* either by the way of clues to help students towards the correct answer or, after a certain number of attempts, the correct answer with the possibility of seeking an explanation. The fact that students are able to correct answers that they had actually completed accelerates learning.

In order to stimulate learners, the developer tried in this program to include all the above, i.e. multimedia, authentic materials, interaction and feedback. This would make self-paced repetition possible for learners.
To develop a program for a language, more research had to be done on language learning. (LL)

2.2.3 Language Learning (LL)

Learning a language is a complex process, whether acquired in infancy as a first language or later in life as second or third language. In both cases the learning process consists of acquiring a language system rather than learning a series of disconnected components. A language system consists not only of a series of grammar rules or vocabulary, but also such elements as gestures and other forms of non-verbal communication. In addition, a language system includes discourse, whereby speakers learn what to say to whom and when. (Biechele und Padros, 2003)

Knowing a language involves being able to carry out a variety of tasks in the language learned. It involves knowing which sounds are used in a language and which are not, knowing that certain sound sequences make up meaningful words, and being able to combine words to form phrases and phrases to form sentences. It means having a

command of the linguistic system – the phonology, orthography, morphology, syntax and semantics of a language. (CEFR, 1996)

Learners acquiring a new language learn how the new language works. They learn the *syntax* of the language, how words are combined into larger units, such as sentences to achieve intended meanings. They learn the correct pronunciation of the written language. *Phonology*, or sound patterns of a language, and the spelling of these, needs to be mastered by the students. (Hufeisen und Neuner, 1999; CEFR, 1996)) In using a language for communication, speakers relate the sounds that they produce and hear to the language system being used to convey meaning, for example the pitch plays an important role. For example, in English one could say: "He bought the book". Another version could be: "He bought the book?" Whether the sentence is said as a statement or as a question depends on the rising or a falling intonation at the end of a sentence. Stress patterns relate to individual syllables in multisyllabic words and to individual words in complete utterances.

Students who are learning a new language learn the *morphology,* or the rules by which words are formed. They learn how suffices and prefixes influence the meaning of words. They also need to learn the *semantics* or the meaning of the words. (Hufeisen und Neuner,1999; CEFR, 1996) . For example, they learn *homonyms* – different words that are pronounced the same way but that have different meanings. *Synonyms* – words that have the same or nearly the same meaning, or *antonyms* –words that have opposite meanings. In addition to learning how words are formed and how they relate to meaning, students learn how context influences the way sentences are interpreted, e.g. in French one can say ,"Elle est belle." This can mean, "She is pretty", or it can mean,"It is pretty". The context in which the sentence is used determines the appropriate meaning. (CEFR, 1996)

While learners gain knowledge about the new language system they become able to use that knowledge to communicate. In teaching a foreign language, the teacher has to consider three components: *function, topics and context*. (Bimmel, Kast und Neuner,

2003). *Function* refers to the learning outcomes or linguistic tasks that students perform, such as asking for and responding to information, narrating past activities, describing events, expressing preferences and persuading. They form the foundation on which lessons and units of instruction are built.

The learning outcomes to be learnt are the first steps in implementing any lesson or unit of instruction. (Bimmel, Kast und Neuner, 2003). Having decided which learning outcomes the learner should master, a decision has to be made on the *topics* to be learned and the specific *vocabulary and language structures* that are appropriate for the student's level. By using appropriate instructional materials and other resources, the teacher provides direct instruction that gives learners the opportunity to practice the specific language elements to be learned. (Bimmel, Kast und Neuner, 2003). A variety of content topics may be used as the focus of instruction at any given level, e.g. "School". The word *Context or situations* entails the settings in which one uses language, e.g. formal or informal settings. Whether oral or written, language conveys meaning best when the situation and the setting in which it is used are known, e.g. "shopping". (Neuner und Hunfeld, 1993)

Vocabulary and concept development is another important component of acquiring a new language system. (Dahlhaus,1994). Infants and young children are learning their first language at home, and the development of vocabulary and language structure occurs as an integral part of the development of concepts. When these children learn another language, the learning process entails associating the new language with concepts previously acquired. The primary use of language is to convey concepts and meaning; therefore, it is essential that the foreign language teacher provides direct instruction to ensure that students understand the meaning of vocabulary and the structures that they are to use. The previous knowledge and experience of the learners represent good starting point in this context.

However, an important phenomenon in teaching, in especially the communicative area, is the necessity to expose the learners to authentic material and real world situations. This implies that the real world phenomena have to be understood by the learner. Understanding and gaining knowledge of real world phenomena help to build up

systematic associations of representations and concept as well as internal definitions of concepts. (Biechele und Padros, 2003)

Studying another language provides the learner with knowledge of the richness of the *cultures* of the languages being learnt. (Biechele und Padros, 2003) Students develop an awareness of the uniqueness of other people, their way of living and their contributions to the world. By learning a new language, students gain knowledge of a different way of everyday life.

Information is transmitted from one person to the next by four modes of expression, namely listening, speaking, reading and writing. Listening and reading are receptive skills, while speaking and writing are productive skills. (CEFR, 1996) It is clear that a learner first receives input form the instructor/teacher, recordings or text material, and needs to understand the utterances before he starts producing his own comprehensibly. At each level of proficiency, students who are literate in the language are able to comprehend what they heard and read. They are able to express themselves comprehensibly through speaking and writing. Proficiency in each of these modes reinforces proficiency in the others. All four modes of expression are important elements in the NCS SAL Grade 10 which will be discussed in the next part of the chapter.

2.2.4 The South African National Curriculum

During Grade 10, the following four outcomes are expected to be achieved in a second additional Language(SAL):

Outcome 1: Listening and speaking. In the Grade 10 year, considering the preliminary knowledge students bring along, listening is taught with the help of texts which are as authentic as possible and of communicative value. Pupils should understand extracts of spoken language made up of familiar material from several topics. These passages include instructions, messages and dialogues. They cope with language spoken at normal speed in everyday circumstances. Pupils identify and note main points and personal responses (for examples likes, dislikes and feelings) but may need short sections to be repeated.

The topics and situations to be talked about are to be chosen thinking of the students'
interests, preliminary knowledge and experiences. The development of a communicative
competence is to be placed very much in the foreground. Pronunciation is to be
developed, and set phrases are used to express personal responses (for example likes,
dislikes and feelings). Although at this stage they use mostly memorized language, they
occasionally substitute items of vocabulary to vary questions or statements. According to
the curriculum,

> *The learner is able to listen and speak for a variety of purposes, audiences and*
> *contexts.*   *(NCS SAL Grade 10-12 (General) p.18)*

Outcome 2: Reading and Viewing

At this stage pupils are beginning to read independently, selecting simple text and using a
bilingual dictionary/ glossary to look up words. This includes authentic materials, (for
example information leaflets, newspaper extracts, letters, databases). Emphasis is not so
much on reading for detail but for gist. Learners should understand short texts and
dialogues, made up of familiar language. They should be able to identify and note main
points and personal responses. According to the curriculum

> *The learner is able to read and view for understanding and to evaluate critically*
> *and respond to a wide range of text.*   *(NCS SAL Grade 10-12 (General) p.18)*

Outcome 3: Writing and presenting

In the first years writing functions as an aid for learning and studying. Pupils should be
able to produce short pieces of writing, in simple sentences, that seek and convey
information and opinions, drawing largely on memorized language. They are beginning
to use their knowledge of grammar to adapt and substitute individual words and set
phrases. They are also beginning to use dictionaries and glossaries to check words which
they have learnt. As far as spelling is concerned, the students should learn to spell those
words as correctly as possible that are necessary for making themselves understood in
writing. According to the curriculum

> *The learner is able to write and present for a wide range of purposes and*
> *audiences using conventions and formats appropriate to diverse contexts.*
>   *(NCS SAL Grade 10-12 (General) p.18)*

Outcome 4: Language

According to the curriculum

> *The learner is able to use structures and conventions appropriately and effectively.*
>
> *(NCS SAL Grade 10-12 (General) p.19)*

He is able to explore and use words with different connotations, to explore how hidden messages, values and attitudes in texts reflect the position of the speaker/receiver/ reader/viewer as well as explore obvious emotive, persuasive and manipulative language and challenge the use of insensitive language.

To summarize, the following should be taken into consideration in designing a program for German Grade 10 SAL:

Functions or *Learning outcomes* that the learner is able to perform at this level include the following:

- greet and respond to greetings
- introduce and respond to introductions;
- engage in conversations
- express likes and dislikes
- make requests
- obtain information
- understand some ideas and familiar details
- begin to provide information
- express and understand opinions

The *context* in which learners perform these functions are the following:

- when speaking, in face to face interaction
- when listening, in social interaction, and using audio and video text
- when reading, using authentic materials, e.g. menus, photos, schedules
- when writing notes, short letters, paragraphs, reports or filling in forms

In choosing *text types*, one has to consider that the student can do the following:

- use short sentences, learned words and phrases and simple questions and commands when speaking and writing
- understand some ideas and familiar details presented in clear, uncomplicated speech when listening
- understand short text enhanced by visual clues when reading

Content in the first years of SAL often include the following topics:

- The Self: family, friends, home, rooms, school, schedules, leisure activities, likes and dislikes, shopping, prices
- Beyond self: colours, numbers, days, dates, months, time, food and customs, transportation, travel, places and events, directions, buildings and monuments

(Neuner und Hunfeld, 1993)

In view of the above, it seems clear that the language skills of listening, speaking, reading and writing are the basis for the development of Learning Outcomes, and should be integrated into an application for this age group. The question is: "How would an application be successful in achieving this outcome?"

It seems that the use of a wide range of texts would allow learners to explore personal, national and global issues. Through interacting with a variety of texts, learners can extend their use of vocabulary and correctly apply their understanding of language structures. They can develop a critical awareness of how values and power relations are embedded in the language. Through effective listening strategies, learners can collect and synthesize information, recognize oral genres and registers in a range of formal and informal contexts. Frequent writing practice across a variety of contexts, tasks and subject fields can enable learners to spell correctly and to communicate functionally and creatively. This combines well with the communicative approach which will be dealt with in the next part of the chapter.

2.2.5 Communicative Approach

The base of the program's theoretical framework is the Communicative Approach. Communicative language teaching is an approach of teaching language based on the idea that language is a means of communication. The purpose of any communication is to understand, and make meaning and sense of a "message".

This approach views language as situated in social activity, as an effort of discourse production and comprehension, as *communication*. Thus, in communicative language teaching, systematic attention is paid to functional as well as structural aspects of language. (Beale, 2002) Classroom work is aimed at the situational contextualized use of language, and teaching and learning are made observable and transparent through content that is made real to the learner through pictures, sketches, diagrams and other representations. (Beale, 2002) Attention is focused on the ability to understand and convey information and the learner is seen as a responsible partner in learning rather than as an object to be manipulated. (Biechele und Padros, 2003) For example, in the classroom the language forms are first presented under the guidance of the teacher, and then practiced in a series of exercises, again under the teacher's supervision. Finally the chosen forms are produced by the learners themselves in the context of communicative activities that can be related to the learners' real lives and interests.
Grenfell (1994, cited in Beale 2002) states:

> …language is not something that we access like a baggage of information, taking out the bits and pieces to suit our needs at a particular instant. It is rather the means by which we create sense: of our world, of and for ourselves….

In their book "Methoden des fremdsprachlichen Deutschunterrichts", Neuner and Hunfeld explain some of the principles of the communicative approach as follows:

- Language is 'acquired' in a gradual and mainly subconscious process: it cannot be quickly "learned" through teaching grammar structures, (this should not be misunderstood to imply that grammar structures should or should not be taught)
- Language acquisition is sustained by experiencing *large* amounts of *input* (listening, reading……..)

- It is developed by *output-using/producing* language (speaking, writing)
- The *level* of the language used in the input is important: it should be familiar enough for the learner to make meaning of it, but challenge the learner with new elements (vocabulary/structures) to promote development, meaning approximately 80% of the material should be familiar to learners, while 20% can be new material.   (Neuner and Hunfeld, 1993)

Communicative language teaching represents the effort by the teacher to set conditions for learning just described. The teacher seeks to provide to the learner a sufficient quantity of comprehensible input drawn from a wide variety of genuine or authentic discourse contexts. (Neuner and Hunfeld, 1993)

The Communicative Approach focuses on the development of communicative competence, which according to Beale (2002) consists of four underlying competencies:

- *Grammatical competence*
- *Discourse competence*
- *Sociolinguistic competence*
- *Strategic competence*

Grammatical competence refers to the knowledge of the structure and form of language, including grammar, vocabulary, pronunciation and spelling, while *Discourse competence* involves the shaping of language and communicating purposefully in different genres (text types), using cohesion (structural linking) and coherence (meaningful relationships in language). *Sociolinguistic competence* refers to the knowledge of the rules of interaction, namely appropriate greetings, taking turns, saying first names appropriately etc. while *Strategic competence* involves knowing how to make the most of the language that one has, especially when it is 'deficient';

These four competencies all contribute in various degrees to the ability to communicate effectively, depending on the purpose for communication. Accurate use of the language plays an important role in clear communication of the message. In Communicative Language Teaching a good understanding of structure is crucial to success in listening and reading comprehensions, but the formal properties of language are never treated in

isolation from use; the language forms are addressed within the communicative context. An emphasis on meaningful use over form

> …means that accuracy and acquisition of the formal features of the (second language) are less a measure of successful language learning than are fluency and an ability to get something across comprehensibly to a native speaker…
> (Sanders 1987, cited in Beale 2002)

Mashori (2003) mentions that for material development our emphasis should be designing tasks which allow learners a variety of cognitive activities. We should intend to achieve the following objectives in designing a course:

- Emphasis should be given to meaningful communication. Text chosen should be authentic. Tasks should be communicative and the outcomes be negotiated in the interaction.
- We should consider the learner as the center of attention
- Learning is considered as a self realizing experience.
- The teacher's role is that of a helper and facilitator. Students needs should be given due consideration in the Syllabi as well as materials.

Conclusion

Discussions in this chapter indicate that the Communicative Approach forms the foundation of the theoretical framework. Other fields discussed were: Cognitive and Constructivist Learning Theories, Computer Assisted Language Learning and Language Learning. All the fields in the theoretical framework inform the practical design of the program, which will be discussed in detail in Chapter 3.

Chapter3

## Development of software

3.1.Introduction

The previous chapter has described the theoretical framework which forms the base of this study. The role of a theoretical framework in a practical program is crucial, since theoretical principles act as practical guidelines to the developer, ensuring that he/she is not "blindly led by the latest technological innovation" (Plass, 1998). The program developed for this study is set within the macro context of Kwa Zulu-Natal, and the micro context of the program consists of Grade10 learners of German as a Foreign Language. The context of the program, as well as the supporting theoretical framework, strongly influences the program's content development and technical design.

3.1.1. Instructional design

The process of designing a learning program is called instructional design.

> Instructional design is the systematic process of translating general principles of learning and instruction into a plan for instructional materials and learning. (Berger; 1996) It is the systematic development of instructional specifications using learning and instructional theory to ensure the quality of instruction. This entails the entire process of analysis of learning needs and goals and the development of a delivery system to meet those needs. It includes development of instructional materials and activities; and tryout and evaluation of all instruction and learner activities. (Berger: 1996)

According to Riley (1995), in his book: "Understanding IT: Developing Multimedia Courseware", in order to focus on developing computer-based instructional material, the design process comprises five steps that are interrelated. Although these steps are depicted as separate elements of the design process, they intersect, overlap and interact with each other. A constant evaluation and revision of ideas, concepts and materials also takes place, making the whole design process non-linear. The following diagram displays the five steps involved in designing computer-based instructional materials, the software lifecycle and these important ideas will be explored in the sections in this chapter.

Concepts → *Specification* → *Design* → *Implementation* → *Delivery*
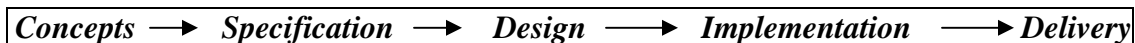
3.2 Program production

This section describes the extent to which the theoretical framework and context influenced the program.

3.2.1 Concepts

3.2.1.1 Needs

Traditionally, the basic concept of learning and education has a basic constellation of an educating, giving person (the teacher) and the person being educated and learning. (learner). The teacher possesses the knowledge, and guides the learner. The knowledge given is structured and arranged according to "digestible portions" by didactic reduction, e.g. a curriculum. In recent years many changes following the development of new technologies and rapid progresses of knowledge have created a profound change in our society, and these effects have involved different environments and institutions, including the school. Being the centre of the learning process, the field of education should be the place where special attention is given to the development of creative thought in the implementation of didactic instruments to help children to adapt to a cultural situation that is constantly changing, which means that more should be done to develop technological skills in schools.

To support this, the National Department of Education has actively promoted the use of computers in teaching, in publishing a White Paper on e-Education in 2003 subtitled "Transforming Learning and Teaching through Information and Communication Technologies". (Department of Education, 2003a). This White paper sets out Government's response to a new information and communications technology environment in education, in which it sees a challenge in providing schools with modern technologies and programs in order to enhance the quality of learning and teaching.

In his book:" Understanding IT: Developing Multimedia Courseware", (1995) Riley states that using "multimedia", (the integration of two of more different information media within a computer system, e.g. text, images, audio, etc) can enhance teaching. Its pedagogical strength lies in the fact that it uses the natural information processing abilities that we already possess as humans, e.g. eyes and ears. The old saying that "a picture is worth a thousand words" is still valid. For example, interpreting a normal photograph of a town in Switzerland can contain a wealth of information relating to the geology, climate, society, history and economics of the area. The same applies to sound: a recording of a person speaking can allow the learner to discern significant semantic factors which would not be apparent in a written transcript. Even when an image or sound can be described accurately and concisely in words, it can still be processed by the brain easier than its text equivalent because in text, the symbols have to be decoded before their information content is released.

Therefore it is important to create the best possible link between traditional teaching and the technological systems to optimize learning for the individual. Complex, distributed learning content must therefore be prepared in a user-friendly, task-related and simple way, tuned to the different knowledge levels of the learners.

3.2.1.2 Purpose and Objectives of the site

For the developer of the Deutsch 1,2,3!! program, the overall objective was to produce a web based learning environment incorporating audio and visual elements , making it possible for students to undertake a range of activities without direct teacher involvement. This project is meant to be for a Class for German Grade 10 SAL. This integration needs to respect the guidelines provided by the NCS and the preliminary knowledge, abilities and interests of the students, recent teaching methodology and the personal attitude, skills and style of the individual teacher.

3.2.2 Specifications

3.2.2.1 Link to the Communicative approach

Language learning should be a natural process where literacy skills of reading/viewing and writing are learned in a natural way. The question was: "How would an application be successful in achieving this outcome?" To develop this project, the developer thought it best to incorporate some of the mentioned principles in chapter 2, which are important for Communicative Language Learning, described as follows:

This application should provide a perfect opportunity for the learner to engage more in the target language German. Learners who do not hear or use enough of the target language will not develop the ability to understand and speak it outside a narrow range of prescribed situations. Ample opportunities to listen and to respond should be given in the project. The language should be spoken at a normal rate, and vocabulary and sentence structures should be used with which students are familiar.

Reinforcement of vocabulary should be done in context. Vocabulary should be practiced in realistic situations, and the power of association should be able to help them to retain it. Listening comprehensions should not simply be used as a vocabulary test, but also as a means of developing the learners' linguistic skills.

To develop the capacity of independent learning, activities in this project should be designed to train learners to use their current stock of language to cope with the unfamiliar and to learn how to find out what they want to know. Reference materials, e.g. Glossary, should be included, which are especially effective in developing reading and writing skills. Learners should be encouraged to discover the forms and structures of language for themselves. Some of the input should be complex and stretch the boundaries of the learners' current knowledge. It should challenge the student to use listening and reading strategies to aid comprehension. Using material that is one level of proficiency higher that the students' current level, ensures that students are challenged by the material without being overwhelmed by its difficulty.

Care should be taken to provide suitable, authentic materials, which would make full use of the multimedia capabilities of the computer. Audios are included, as well as graphics to support the learning material. Using authentic material, learners are given insight into both their own and the foreign culture. By listening to authentic speech, a good accent can be acquired. Frequent exposure and use of the target language can develop pronunciation, and help learners to discriminate between sounds, distinguish between words and to become accustomed to the rhythm of the language. By incorporating media, certain cultural ideas are expressed and even cultural values are transmitted.

In the project, the developer wanted to create a program that would be well matched to the learners' age, abilities and interest. The tasks should be suitable for the learners' stage of maturity and language competence and throughout the project be promoting a sense of challenge and achievement, since nothing succeeds like success. Learners should be engaged into activities that bring a range of skills into play, namely listening exercises, silent reading texts, comprehension questions, gap fill exercises etc. The Hot Potatoes Exercises should be encouraging learners to assess their own capabilities, and these could be repeated and practiced until a learner would feel that he would have mastered the work. There would be a whole-language approach in which the four traditional language skills (listening, reading, writing and speaking) would be integrated.

3.2.2.2 Link to Language Learning

The question raised is which of the four skills in Language Learning (listening, speaking, reading and writing) could be included in a program like this and how could they improve learning? More research was necessary to decide on this.

3.2.2.2.1   Listening

Listening is an invisible mental process, making it difficult to describe. Listeners have to discriminate between sounds, understand vocabulary and grammatical structures,

interpret the tonal nuances, all within the immediate as well as the larger socio-cultural context.

'*Listening comprehension'* is an interactive, interpretive process where listeners use both prior knowledge and linguistic knowledge in understanding messages. (Riley 2005; Hoven 1999). Knowledge of the language, familiarity with the topic or the purpose of listening will determine which process the listener will use. This means that 'listening comprehension' is a process of matching speech with what listeners already know about the topic. Researchers have found that semantic and syntactic systems as well as top-down and bottom-up processing operate simultaneously (Wolff 1987, cited in Hoven, 2004)

Learners need help in organizing their thoughts, and to activate appropriate background knowledge for understanding as well as make predictions to prepare for listening. Knowing the communicative purpose of a text will help the listener determine what to listen for, as well as the way the task will be approached.

In the CALL environment listening activities can be included with ease, and learners can be provided with visual support in the form of graphics to reduce the text difficulty (Hoven: 1999). According to Vandergrift, in his article:" Listening: theory and practice in modern foreign language competence" (2002) listeners use 'top-down' processes when they use prior knowledge to understand the meaning of the message, which can be knowledge of a topic, the text type, the culture, or any other information or 'bottom-up' processes, when they use linguistic knowledge to understand the meaning of a message. These can be from 'lower level sounds' to 'words' to 'grammatical relationships' to 'message'.

An application can be designed in such a way that learners with lower proficiency can ease themselves gradually into the more contextually difficult tasks, starting off with the easier exercises, and gradually increasing the level of difficulty. (Hoven, 1999) This gives the student a measure of control, with options to retry or move to a different section. In its simplest form, the student listens to an item and then chooses an answer from some form of multiple-choice menu. These assessments work effectively when well

designed, and can offer instant feedback to the student, which has a beneficial effect on learning.

3.2.2.2.2 Speaking

Language learners often regard the skill "speaking" as the most important skill of LL, and assess their progress in terms of their accomplishments in spoken communication. According to Neuner and Hunfeld,(1993) in their book, "Methoden des fremdsprachlichen Unterrichts", speaking involves three areas of knowledge, namely: Mechanics, Functions, Social and Cultural rules and norms. (Neuner and Hunfeld, 1993)

The mechanics of a language include aspects like pronunciation, grammar, and vocabulary, meaning using the right words in the right order with the correct pronunciation. Functions refer to transaction and interaction. It is knowledge of when clarity of message is essential (transaction/information exchange) and when precise understanding is not required (interaction/relationship building). Social and cultural norms include aspects like turn-taking, rate of speech, length of pauses between speakers, relative roles of participants. It means that the speaker can take into account who is speaking to whom, in what circumstances, about what, and for what reason.

By providing a lot of language **input** in the form of listening activities, reading passages and the language heard and read in the program, it is hoped that the learners are given the material they need to begin producing language themselves.

Guidance is given (via examples), on discourse competence (appropriate things to say in specific contexts), linguistic competence (vocabulary and pronunciation), sociolinguistic competence (expectation for rate of speech, pause length, turn-taking and other social aspects of language use), and strategic competence (explicit instruction in phrases to ask for clarification).

To make it easier for the user, Neuner and Hunfeld, (1993) mention a few methods how the understanding of "speech acts" ("Sprechakte") can be developed and tested. The developer decided to include them in the program: multiple choice exercises, true and

false exercises, matching exercises, reordering of dialogues, building questions and answers and adding visual clues. There should be a focus on keywords, and text should activate pre-existing knowledge.

This links up with the communicative model of language teaching, where learners are provided with help in developing this body of knowledge, with authentic practice scenarios that would prepare students for real-life communication situations. Help is given to students to develop their ability to produce grammatically correct, logically connected sentences that would be appropriate to specific contexts, and to do so in using acceptable pronunciations. Students are able to listen to excerpts as often as they like, and learn from these step by step.

3.2.2.2.3 Reading

Reading is an interactive process that goes on between the reader and the text, resulting in comprehension. The text presents letters, words, sentences and paragraphs that encode meaning. The reader uses knowledge, skills, and strategies to determine what that meaning is. In the past "bottom-up" reading models had been in use, in which the reader deals with letters, words and sentences in rank order, each step depending on the preceding one. In the classroom practice, the "top-down" model replaced the previous one. This model assumes that the reader interrogates the text rather than processing it completely. He gets meaning by comparing expectations to a sample of information from the text. (Walter: 2003)

As mentioned in 3.2.2.2.2"Speaking", the readers' knowledge and skills include linguistic competence, discourse competence, sociolinguistic competence and strategic competence. Reading is usually an activity with a purpose. A person may read in order to gain information or verify existing knowledge, or in order to critique a writer's ideas or writing style. A person may also read for enjoyment, or to enhance knowledge of the language being read. The purpose for reading also determines the approach to reading comprehension. A person who needs to know whether she can afford to eat at a particular restaurant needs to comprehend the pricing information provided on the menu, but does not need to recognize the name of every appetizer listed. However, a person reading an

article needs to know the vocabulary that is used, understand the facts, and recognize ideas that are presented.

In the CALL environment reading comprehension is simple to assess, with multiple-choice, drag-and-drop and fill-in-the-blank tests. The question raised is: How can we help students with reading via a CALL application?

Research indicates that people read much slower from a computer screen (Nielsen: 2003), and this therefore means that text should be short. Long text should be in a printed format. Other effective means of building reading fluency are timed-and paced reading activities, word recognition exercises, re-reading activities and simple reading comprehensions. (Walter: 2003) In order to read comfortably, readers need to understand 95% or more of the words in a text, recognizing them rapidly (Grabe & Stoller 2002, cited in Walter :2003) which means that targeted vocabulary teaching, especially focusing on vocabulary that is appropriate to specific topics and fields of study, would enhance word recognition and automaticity. Various ways of learning vocabulary, (with translations, antonyms and synonyms, contextualized in sentences in sense and /or function categories), studying patterns of word formation such as using common suffixes and prefixes, and the use of dictionaries all can be included into a CALL program.

Coming back to the Communicative approach: The goal of developing a project that is based on this approach is "communicative competence", meaning that, everyday materials such as train schedules, newspaper articles, and travel and tourism signs become appropriate materials. The addition of multimedia should enhance the quality of the project and stimulate learning.

3.2.2.2.4 Writing

Listening and reading are receptive skills, while speaking and writing are productive skills. Listening and reading are trying to 'decode' the formal and social aspects of the text, while the writer is required to 'encode' them. The term "writing" refers both to an 'act' as well as to the result of the act, which immediately gives two ways of acquiring

the skills of writing, namely by learning the process of composing and learning the form and organization of the product. (Archibald: 2004)

As for CALL, the language processing capacity of the computer is able to include single words and short sentences typed at the keyboard. There are features in the computer that can be used within the assessment process such as spell-checking to enable self-checking of spelling and even grammar checking. Text manipulation as described below allows students to consolidate understanding of the written word as a precursor to their own writing:

- Word order /sentence construction raises awareness of lots of different ways of saying/ asking the same thing.
- Dialogues: jumbled sentences have to be reordered. Learners can 'write out 'the dialogue again, or write out their own scenario. They reorder the conversation or interview from which it might have emanated.
- Matching exercises can include: questions with answers, synonyms, antonyms, vocabulary with pictures, translations, grammar aspects etc.
- Forms: a blank grid / form is provided to learners, and they complete this with their own identity details / or deduct information for this from a given card (ID size)
- Cloze writing: to deduce and consolidate vocabulary (sometimes with additional listening comprehensions, or as assessment of previous knowledge)
- Letters: The writing of a letter, which is sent to the teacher by e-mail.
- Other open ended questions: writing a report / reporting incidents (sent to teacher via e-mail and marked by the teacher) (Haezewindt: 2005)

Conclusion

In enabling students to progress towards the achievement of literacy in German as an SAL, direct instruction in each of the four modes of expression should be provided. Thus, an integrated approach should try to combine listening, speaking, reading and writing activities as much as possible. Additional with this, 'content integration' would bring in

content from the students' field of study. The knowledge of the topic would help them understand how to use the language and they will be able to scaffold: to build on existing knowledge as they increase their language proficiency. The main outcome should be to strengthen the pupils' understanding of the language, and the ability to be accurate when using the language.

The application should aim to assist pupils' learning of vocabulary and spelling of words as well as understanding and use of everyday signs on the street, menus and train schedules. Learners should work at their own pace through the cycle of exercises. Each learner should choose for himself how often to review a text, how many tasks to do for the same text, the level of cognitive difficulty. The system would check the learners work and give them a percentage mark, and eliminate any answers that are incorrect to allow them to have another go. To assist learners in their vocabulary acquisition, a glossary should be included, in which learners are given opportunities to look up word meanings, visually or verbally, while listening or reading. The provisions of timely, task-specific feedback in listening and viewing comprehension should be included.

3.2.3   Design

3.2.3.1 Introduction

A very important feature a developer has to consider is the question concerning the hardware and software used for the application. For this project decisions needed to be made concerning the type of delivery platform used, the capacity of the system needed, the type of display or monitor required, the interface design and the requirements of the software. (Riley: 1995)

3.2.3.2   Hardware and software

3.2.3.2.1   Delivery Platform

In this project the *platform* the developer decided to work in was HTML, and Macromedia's Dreamweaver significantly enhanced the process of design. In addition, a

web-based authoring system for developing interactive exercises called Hot Potatoes was chosen. The program can also be used as a stand-alone system, which means that each station can be started separately, can store the data needed for a testing session, and at the end of a test, the supervisor can manually retrieve the data from each station. It was decided to make a CD-Rom, which is a high capacity storage medium, and can hold up to 700Mb, which should be enough storage to include graphics and sound.

The display allows for multimedia presentations, and earphones should be available for the listening comprehensions. The software contains graphics as well as audios. The learner is equipped with a menu page shortly after the index page, and can thereby navigate to any of the topics presented. This allows for adequate student control.

What makes *Hot Potatoes* user-friendly is its simplicity in the interface. *Hot Potatoes* uses Java script for its interactivity in the exercises, provides pre-designed templates for multiple-choice exercises, cloze procedure, and matching/drag-n-drop, short quizzes, jumbled up sentences, and crossword puzzles. Being more versatile than other web-based authoring systems, *Hot Potatoes* allows for integration of animations, sound and graphics, as long as these elements are compatible with the *html* format. It is fairly easy to implement discrete-point *vocabulary tests* using buttons to create multiple choice items, cloze tests with text fields for brief-response items, discourse completion tests or essays with large text areas, as well as reading comprehension tests with frames, where one frame displays the text and the other frame displays multiple-choice or brief-response questions. Most tests can be scored automatically with a scoring script. Such items can be contextualized with images. Consequently, using Hot Potatoes for the applications seems to be a very effective authoring program for Language Assessments.

To design a good project, the course developer has to know what he would like to achieve. To examine students' vocabulary knowledge, recognition and recall tests are often used. For example, *recognition tests* usually involve multiple choice activities. Here learners select or guess the correct response from the alternatives given. These tests may strengthen any existing memory traces.

On the other hand *recall* demands the production of responses from memory. This is more difficult than recognition because learners must search for the correct response within their mental representation of the newly experienced information .(Albers und Bolton, 1995)

According to the CILT, (National Centre for Languages: 2004) Hot Potatoes offers specific types of questions and exercises that are very useful for CALL : Multiple choice, True/False, Matching, Gap-fill exercises, Short answer, Word ordering, Interactive crosswords, Reconstructing dialogues. The characteristics of the exercises /question types are as follows:

1. *Multiple choice*

This exercise has got different ***functions***.

a) Firstly, the questions help the student to understand:

- A fact, or piece of information in the text;
- An implied fact;
- Some meaning, or interpretation that must be deduced from the text;

b) The question helps the student to evaluate the work on his/ her own.

The questions have different ***aims***:

a)   to test comprehension;

b)   to explain or help understand a difficult word/passage;

c)   to lead the student to go back to the text and *scan* it carefully;

d)   to help the student think about the text and mentally weigh several possibilities or interpretations;

The question can have different ***focal points***:

a)   a word;

b)   an expression, clause or phrase;

c)   one or many paragraphs; or

d)   the entire text

2. True/ False

Here the student is given 2 options and he/she must choose the correct one. In order to do this, the student must carefully consider all the information available for every option.

3. Matching

Students are asked to find the link between one concept, word or image and another. Students have to gather information on both. Matches can be between:

- Phrases, with another phrase, or with audio
- Synonyms / antonyms
- Images and words (for vocabulary)
- Translations and meanings in target language

4. Gap-fill exercises

This is also known as a "cloze" exercise. It develops comprehension by deleting target words from a text. This type of exercise may direct the student to read the text again in order to type in the correct response. The developer may give a list of words of which the student can choose from, or alternatively entire exercise should be from memory. The exercises may be linked to images or sound files, which help students to reconstruct the text. This encourages pupils to think about the structure of text overall, rather than focusing on single words.

5. Short answer

This question-type requires students to type in a word, phrase or number. This type of exercise may direct the student to read the text again in order to type in the correct response.

6. Word ordering

This question type asks student to reorganize words into the correct order. This can be useful in many contexts, such as putting negatives and adjectives into place, or re-arranging different components of a sentence.

7. Interactive crosswords

Crosswords are a versatile way of practicing various aspects of language and are a good challenge to students. Certain words are used, and clues to these are given, which might be vocabulary translation, a word definition. Pictures or sound clips may be also used as clues.

8.*Reconstructing dialogues*

These questions can support role-play and conversation activities. Pupils are obliged to concentrate on meaning. The questions take the form of a short interview, using words, phrases and structures from the unit under study. A dropdown list may be given with different phrases, and the student has to choose the correct order.

8. Open-ended

This is the ideal question to use if there is not one obvious, correct answer to a question. This will force the students to go back to the text and look for supportive evidence for their answers. Paragraphs, letters and creative writing fall into this category.   (Languages CILT, 2004)

The formulation of a question should always be accompanied by feedback. Practice without feedback is meaningless; the student does not know whether he/she is making progress, what he/she is doing wrong, and what can be done to make progress. (Dunkel,1999; Chapell,1998).

Having discussed the authoring programs to be used, the next part of the chapter takes a closer look at the design of the user interface, design principles and navigation in the program.

3.2.3.3 Interface design

Wikipedia defines the user interface as follows:

> The **user interface** is the aggregate of means by which people (*the users*) interact with a particular machine, device, computer program or other complex tool (*the system*). The user interface provides means of "Input", allowing the users to manipulate a system, as well as "Output", allowing the system to produce the effects of the users' manipulation

In a computer program the user interface refers to the graphical, textual and auditory information the program presents to the user, and the control sequences the user employs to control the program. (such as keystrokes with the computer keyboard, movements of the computer mouse, and selections with the touchscreen)

The design of a user interface then refers to the amount of effort the user expends to provide input to the system and to interpret the output of the system, while usability is the degree to which the design of a particular user interface takes into account the human psychology and physiology of the users, and makes the process of using the system effective, efficient and satisfying. (Wikipedia, 2007)

In this specific program, the developer decided on a clear outline. It is crucial that learners have an opportunity to become familiar with the computer, the structure and organization as well as the content domain of the applications. The purpose of the program should be clearly indicated on the homepage, and students should be able to tell at a first glance how the site is organized and the options available.

Information given should be clear and straightforward, written in simple language, free from clutter. The content and questions should be meaningful, and not too long. The learner should know what content and skills will be assessed, (e.g. listening exercises, reading comprehension). Clear directions for leaving the system should be given, as well as an explanation, what actually would happen should the student leave. (Nielsen, 2003) Here the program has varied presentation modes (e.g., graphics, text heard, text read, multiple-choice items, selection-of-graphic items, etc.), and the learners should be informed of the various presentation and question formats.

To place the user in control and provide proactive assistance, the program should enable them to accomplish tasks using a sequence they would naturally use, e.g. they would start with lessons, activating activities (e.g. audios for listening comprehension) and finish. Users should be protected from making errors. The interface should provide visual clues, reminders, lists of choices and other aids, e.g. Glossary. (Nielsen, 2003).

The developer decided to create the program in a way that it would combine linear and non-linear features. It comprises eight modules, which the student will be able to work on in a specific order and within each module he may go from beginning to end but at the same time he is also free to move back and forth. He may access the glossary or links page at any time.

Objects and their controls should be made visible and intuitive, e.g. use real-world representations in the interface. (Nielsen, 2003) The examples /graphics used to illustrate in this program should build on the user's prior knowledge, coming out of the real world. This would help the user to understand more quickly and give the interface a more familiar look. Each time a graphic is put on a page, a statement is made, and where it is placed should be important.

Overall the site should be aesthetically appealing, with an attractive use of graphics and colors, without being too busy with clutter. Graphics should be in a format that would download fast, and not hinder the flow of the user's progress. (Nielsen, 2003). There should be a good balance on all pages and a degree of consistency between all the pages.

In view of the above it was decided on a simple design, with shades of blue, and a bit of yellow to add some color. The background color is white, because it provides rest for the eye and draws attention to key points on the page and graphics and photographs stand out when surrounded by white space. Two formats of layout are used. In the first (for all index pages of the chapters) the white background is more prominent, and a small block of yellow provides some color on the left, with the sides being light and navy blue. To provide more variety on the theme, the exercise pages contain slightly more yellow, with a horizontal rule in only navy blue, and a white background. Despite not being exactly the same, they seem compatible and in some way a help, in that students might identify at a glance which pages would be exercises, and which are index pages of each specific chapter.

Fig 3: Index page of the project

Fig.4: Exercise page: chapter 7, matching

In some instances, (for example in Chapter 1, where the student has to write a letter), a form is used, which is done in Dreamweaver, and therefore also uses the colors of the chapter pages. All exercises which are done in Dreamweaver have got the format of the chapter pages.

The application starts on the index page, where the title of the program is given, and the purpose of the application is explained. All the theme pages have got links to the following pages: The Home page, the Menu page (Einheiten), Information (Hinweise), Vocabulary (Glossar), Links and the Sitemap. (Űberblick). A button in the center of the Index page leads the user first to a page where the three main persons, on whose activities the units are based, are introduced, and then towards the menu page. The menu page provides access to all the chapters and forms the heart of the application. All the themes start off from this page, and are linking back to this page. On each theme page there are a number of exercises. Beginning with the first exercise, there are buttons linking directly towards the next exercise (>) as well as back to the previous exercise. (<)

Conclusion

This concludes the third part (Design) of the above "software life cycle",

| *Concepts* | *Specification* | *Design* | *Implementation* | *Delivery* |

in which the content and technical design of the software program is discussed.
The next part of the chapter moves on the implementation of the software.

3.2.4 Implementation

After the software has been designed, it has to be implemented, that is, coded or authored using the chosen development tools. This program is modular, which means it is composed of modules that can be removed, replaced or altered with little or no effect upon other modules of the application as a whole, by the developer, or anyone that is able to work in Dreamweaver8 and Hot Potatoes.

Instructions are helpful and learners should be given the time and opportunity to become thoroughly familiar with both the computer and the testing system. (Dunkel, 1999) Although the project developer tried to make the application as user friendly as possible, it was felt that the user should have some form of guidance, and it was decided to make the manuals easy to understand. It was decided to include an information page, where the following is explained in English (not the target Language):

- The purpose of the application;

- How to use the application

- A site map with a complete index of all pages

- A page with additional links to similar sites

The navigation is explained and the student is referred to the menu page, where links are given to the various exercises. A sitemap is included, where all the content/questions are listed, as well as a page with relevant links to similar pages or grammar help online. On-screen help is available at all times in the format of a vocabulary list, to look up specific words, translations and meanings.

This concludes stage four of the following "software development cycle".

Concepts	*Specification*	*Design*	*Implementation*	*Delivery*

The last stage of the cycle is discussed in the next part of the chapter.

3.2.5 Delivery

The delivery stage of the development process entails not only the final delivery version to the public, but also ongoing technical support and maintenance.

The installation of this software is a simple process. An *Autorun* facility has been built into the system, which makes it unnecessary for the user to create any directory structures, or manually copy files. It is created for a PC with Windows on it, and apart from putting the CD into the drive, there is not much more the learner has to do to install it, except if it is run on a network, where the administrator would have to run it from the main server. The software could be used on a computer with a screen resolution of 800X 600 or 1024X 768 pixels. Post-release feedback is a valuable tool that can even improve the effectiveness of any software. This project is built on the *perceived needs* of users. Comments and evaluations from users later on can be sent to the e-mail address given on the home page and would be welcomed.

Conclusion

The five steps involved in designing computer-based instructional materials,

Concepts → *Specification* → *Design* → *Implementation* → *Delivery*

were described in detail, as well as the whole process of developing this program.
The developer tried to combine the theoretical basis of language learning and learning
with the more practical part of software engineering. It is based on the competencies and
skills to be developed and the cognitive processes underlying them, and hopefully will
result in a user friendly design of the user interface in which the designer puts the user,
the content and the instructional activity into the center of the design process. It is argued
that

> …a contextualized cognitive approach to interface design can lead to a more
> domain-specific support of cognitive processes involved in the acquisition of
> Foreign Language competencies and skills. (Plass, 1998)

In order to be more specific, the outcomes of all the exercises needed to be defined more
clearly, and this will be discussed in the next chapter.

Chapter 4

Specific Learning outcomes

4.1   Introduction

Having analyzed and described the basic design principles for a language course there is yet one more aspect to be discussed: the actual language functions or specific outcomes of each exercise in the program Deutsch 1.2.3!! In order to develop an application, decisions had to be made in relation to identify learners' needs and purposes. Goals and objectives had to be set and the content had to be graded and selected, with the learning objectives clearly identified.

With the aim to actively encourage listening, speaking, reading and writing skills, by combining audio and text in a variety of exercises, the program, based on a continuing story of a South African girl who goes to Germany to visit a pen friend, explores many fields of German life. This South African girl, who lives in Durban and who has had German lessons for approximately two/three years, goes to visit her penfriend in Frankfurt and various imaginary activities are integrated into the application, e.g. a visit to the bank, restaurant, train station and shop as well as going to school. These scenarios form the background to assessing the basic knowledge of the learner. This fictional but realistic interaction is then linked to specific learning outcomes.

4.2 Course Content

First, a needs analysis was done to establish what a South African girl would have to be able to understand and speak when going on a short visit to Germany. This analysis necessitated interviews with students that have gone on a short trip to Germany as well as with experienced German teachers. A thorough study of the German "Fernstudieneinheiten" was made, a project published by Langenscheidt, designed for "Further education" and "In service training" for Foreign Language teachers. These gave a lot of insight into "Landeskunde", as well as textbooks based on the Communicative Approach, e.g. "Erste Schritte", "Genial" and " Sowieso". The needs analysis supplied the topics, situations, roles and speech acts on which the program was to be based.

The program is divided into eight different modules, which are shown on the menu page. These form the heart of the application.

Fig 6: Print screen view of Menu page

Each of the units has its own menu page, which offers a variety of exercises for the learner to go through. Learners are advised to go through the units in chronological order, starting off with the chapter of "Kennenlernen". (Getting to know each other). Within each unit, exercises are organized from easy to difficult, and therefore it would be better for the slow learner to follow the sequence from 1 – 10, although this is not a necessity.

The Audios are accessed by means of standard VCR-like control buttons – e.g. "play" and "stop". This is also explained in the instructions pages. In this way students can listen as many times as they need to. By viewing and listening, and completing the exercises, students gain an understanding of the clip. In addition, they also get a feel for "real" language, since the clips contain some authentic German speech.

It is assumed that those using the program are sufficiently motivated to want to learn and explore. Point scoring and a deducting system are used for each specific question, in which a learner gets a percentage mark for his result. In this way learners can try to improve there scores with repetition, or the teacher can use these exercises as revision tests when necessary.

3.4.2.1 Unit 1

Starting off in unit one:" Kennenlernen" Ellen, the girl going to visit in Germany, receives a letter from her pen friend, Astrid, in which she is invited to visit her. This "letter" is used as "input" for the first part of the chapter, including introductions and endings in letter writing, as well giving information about family, pets, birthdays, age and hobbies.

After that, there are a number of exercises assessing language use, e.g. translations of important words, matching phrases, (e.g. Herzliche Grüße), gap fill exercises, a crossword puzzle (testing the spelling of used words) and writing a letter to Astrid, in the form of an e-mail which would go to the teacher to be marked.

 The second part of the chapter moves on to descriptions. These exercises are testing items like body parts, colors, clothes and luggage. In exercise 8 there is a listening comprehension with gap fill exercises, and a matching exercise, ending off the chapter with descriptions, where the learner is given short data lines which have to be written into forming a proper paragraph, describing the two girls, as well as pronouns. (Sie, Ihre…..) This would also be sent as an e-mail to the teacher. (Should the program not be used on an intranet, this feature could be changed so that learners could send an e-mail through their Outlook system.)

Learners should by now also understand that there is a link between the spelling of a word and the sound, and that the spelling of the word helps to pronounce it. They can imitate the dialogue, which would then serve as a model for pronunciation. The specific learning outcomes that should be achieved in this unit by the learner are summarized in the following table:

Exercise	Learning Outcome : The Learner can…
1. Redewendungen (matching exercise)	- recognize basic vocabulary and structures used in letter writing -connect simple phrases for letter writing purposes -introduce himself (in a letter) -end and greet formally (in a letter) -express good wishes (in a letter)
2. Kreuzworträtsel	- begin to apply correctly the spelling of words for pets, hobbies, and sport types; -recognize the correct translation for each word; -begin to show understanding of links between spelling and sounds;
3. Letter to Ellen (gap-fill exercise)	- produce from memory a number of key words that are used in a letter, including greetings, introductions, without the need for prompts or questions;
4. Letter to Astrid (open writing)	-write from memory a simple, personal letter, thanking for an invitation; -begin and end a letter correctly; -use a series of phrases and sentences to describe in simple terms personal matters, for example his/her family , pets, hobbies, background and sport activities. -use correct spelling;
5. Beschreibungen	-understand short written descriptions about people; -identify correct colors and clothes by viewing the graphics of specific people;

	-recognize personal pronouns;
6. Lückentext	-recognize the correct missing word in descriptions, including colors, clothes, family members;
7. Kreuzworträtsel	-begin to apply correctly the spelling of words combining colors, clothes and descriptions; -recognize the correct translation for words given in context;
8.Hörübung - Lückentext	-recognize familiar words and basic phrases spoken; -understand phrases and the highest frequency vocabulary related to descriptions, colors and clothes, spoken in an authentic text; -catch the main point in short, clear, simple sentences;
9.Beschreibungen E-Mail	-write a full description of a person in paragraph form, with only short, concise data given ; -describe body parts, e.g. hair color, eye color etc. -use the correct form of pronouns (sie, ihre….) -include the correct form of the verb (sein, haben, tragen, mögen, finden….) -express likes and feeling;

3.4.2.2 Unit 2

The second unit's theme is called "Wohnen". In this unit learners are supposed to identify and compare the daily life of a contemporary German learner, to their own, including aspects such as greetings, (formal and informal), housing and furniture, as well as family life.

In the first part of the unit input is given by a dialogue, where Ellen is fetched at the airport, including phrases when "meeting for the first time". These are included in matching exercises, first in translations, and later in matching phrases. A crossword puzzle tests the spelling, and the vocabulary about the "Family" is tested with antonyms (male and female), as well as a riddle where Marianne is the center (Astrid's mother). The idea of this question is to extend the questionnaire into more fun, by adding some logic thinking into the activity.

In the second part, questions are more about the house and living, where there is a picture of a bedroom, with numbers on furniture items which learners have to match and in a quiz they have to answer questions as true and false.

Fig 6: Ellen's bedroom, Exercises 6+7

The two last exercises include an audio, in which Astrid talks about her house. The first is a listening exercise, where learners have to identify the various rooms in the house. A picture is given, and the audio explains systematically where the various rooms are situated. It is presumed that learners would know the vocabulary about all the different rooms and the different floors.
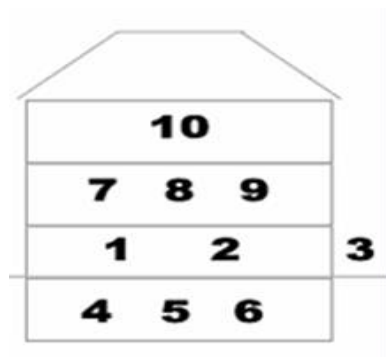

Fig 8: A picture of the house: exercise 9

The specific learning outcomes that should be achieved in this unit by the learner are summarized in the following table:

Exercise	Learning Outcome : The Learner can...
1. Übersetzungen	- recognize basic vocabulary and structures used in introductory meetings; - correctly <u>translate</u> simple phrases in personal interactions, for example asking and answering simple questions in first meetings; - correctly introduce himself and react to an introduction politely;
2 Erste Begegnung (matching exercises)	- connect basic introductory patterns and phrases; -initiate conversations, with basic greeting patterns e.g. 'Guten Tag', 'Ich heiße...' etc.
3. Hörübung - Lückentext	- recognize and understand familiar names and words used in greetings; - catch the main point in short, simple, spoken language; - identify elements of the <u>German culture</u>, that are different from his own, by comparing the way greetings are exchanged;
4. Kreuzworträtsel	- begin to apply correctly the spelling of words regarding family; - recognize the correct translation for each word;
5.Wortschatz	- recall familiar vocabulary within the theme: family - recognize the male and female (Gender) of each;
6. Astrid und ihre Familie (riddle)	- read a short, simple text with familiar vocabulary about the family; - understand familiar names, words and simple sentences to be able to find specific information and come to conclusions; - think logically, to find the correct answers;
7.Ellens Schlafzimmer (matching exercise)	- recall familiar vocabulary within the theme: furniture (with help of a picture);
8.Ellens Schlafzimmer (quiz Richtig oder falsch?)	- understand the meaning of words like neben, auf, zwischen, oben, unter;

	- understand familiar names, words and simple sentences to be able to find specific information and come to conclusions;
9. Hörübung- Astrids Haus	- extract specific information from an authentic German-Language resource (audio); - understand the main points of clear standard speech on a description of the house with its rooms; - recall the vocabulary of various rooms in the house;
10.Leseübung: Astrids Haus	- recall familiar vocabulary about furniture and specific rooms in the house; - understand phrases and descriptions related to the house and furniture; - catch the main point in short, clear simple descriptions; - identify elements of the German culture that are different from his own, i.e. types of living accomodation;

3.4.2.3 Unit 3

Unit three is about the school. This chapter is longer that the others, and is subdivided into three parts. The page opens with two photos, one with a school building, and the other with learners sitting in a cafeteria. This photo helps to identify some of the differences in the German school culture compared to the South African school culture, namely that the learners are not wearing a school uniform but are able to wear normal fashionable clothing. Other differences about school life in South Africa and Germany might include school subjects and aspects about the timetable.

Starting off, there is a quiz on Astrid's timetable in a multiple choice format. To be able to answer this, a student should know the numbers and the days of the week, subject names and terminology surrounding the term "school", e.g. "Pause", and question forms, e.g. "Wie oft?", or "Wann?". This is followed by a crossword puzzle, as well as a matching exercise, testing the names of school subjects in German.

Secondly, for input, there is a dialogue (audio) between Ellen and Astrid, expressing their opinions about subjects they like and dislike, and attached with that a listening comprehension, testing subject names, and adverbs that describe.

Thereafter, a dialogue between Ellen and Alexander (Alex), Astrid's brother, provides more audio input, where Alex mainly talks about the subjects he likes and dislikes. To test the adverbs, a matching test is given with antonyms. If repetition is necessary, the order of the answer is shuffled, so that the learner needs to think every time and does not rely on memory. Additionally, there is a timer set for the exercise, meaning that if learners don't finish the first time round, they could repeat it, and see for themselves if their score could improve.

Thereafter, a very simple sentence construction tests word ordering on a sentence . In a listening comprehension, true/false answers are given and the listener has to decide on the correctness of the statements. The content of the comprehension is tested, and listening skills should be developed.

Alexander is clearly the center of this unit, because in the next part of the unit he is talking about his previous day, which had turned out to be disastrous. Learners need to do a reading comprehension, first in a normal multiple choice quiz, (which tests more global knowledge) and then a matching exercises, where a dropdown list is given and learners have to choose the activities of the day in a chronological order. To be able to achieve this, learners need to understand the content of the sentences. Immediately following this, there is a gap fill exercise, where the reading passage is taken away, and learners should fill in missing words. Because the work is much harder than in the beginning, a wordlist is given from which they can choose from.

The specific learning outcomes that should be achieved in this unit by the learner are summarized in the following table:

Exercise	Learning Outcome : The Learner can…
1.Astrids Stundenplan (Quizz)	- recognize vocabulary of numbers, days, subjects; - understand basic questions like "Wie oft", "Wann" and describe a timetable from the information; - extract information from an authentic German timetable and process it, e.g. 'Um elf Uhr habe ich Geschichte".
2. Kreuzworträtsel:	- begin to apply correctly the spelling of terminology that is relevant to school, i.e. subjects etc. -recognize the correct translation for each word;
3. Schulfächer (Matching exercise)	- identify certain subjects according to a graphic;
4.Hörverständnis - Lückentext	- identify familiar words and basic phrases spoken; - understand phrases and the highest frequency vocabulary related to subjects, time and school; -catch the main point in short, clear, simple sentences;
5. Wie findest du.....? (Adjektive /Gegensätze)	- recall vocabulary (Adjectives, describing likes/dislikes) - understand and express personal responses such as likes / dislikes and feelings; - find the correct antonyms;
6. Satzkonstruktion	- reconstruct a simple sentence in the correct order, i.e. (subject , verb, object , adjective) - think logically: he can recognize the name of the subject (Capital letter) and conclude that the other capital (Ich) would be the beginning of the sentence.
7. Richtig oder Falsch? (Hörverstehen)	- identify the main points in short, clear, simple sentences describing the subjects; - recognize familiar words and basic phrases spoken regarding Alexander's likes/dislikes, subjects , times and school; - listen to an audio, and then process information from an authentic German-Language resource;

8. Leseübung - Alex hat einen sehr schlechten Tag!	- understand a text that consist mainly out of everyday language, including problems and a description of events and feelings ; - recall familiar vocabulary about school subjects, and adjectives;
9. Leseübung - Ordne in die richtige Reihenfolge	- extract specific information from an authentic text and organize it in a progressive order in a school context; - catch the main point in short, clear simple descriptions;
10. Lückentext (mit Hilfe)	- recall appropriate vocabulary from memory; - combine earlier language with new concepts to fill in the correct words, inflecting and placing them appropriately;

3.4.2.4 Unit 4

Unit four, and five, both involve the city, but with a slight difference. In unit four the theme is "orientation in the street", featuring the daily necessities when going to a foreign country, including aspects like buying a ticket, filling in a personal form, the market place, while unit five concentrates more on asking for information for sight seeing and shopping.

Unit four starts with a different matching exercise, of vocabulary, with street signs. The use of original photos makes the project authentic and stimulates the visual sense of the learner. The vocabulary used here is challenging for the learner, as a lot of compound nouns are used, e.g. "Zeitungskiosk". These, the learner can look up separately. Following that, there is a listening exercise, with a dialogue in the bank, where Ellen wants to change money into the new currency. Important words are tested in a gap fill exercise. (This dialogue could serve as a model for similar dialogues for role play in class, should the teacher want to use it.) Thereafter Ellen has to fill in a form, stating all her personal details. This is testing if the learner knows the subheadings, and if they can fill in a form properly.

In a similar exercise as before, Ellen renews a bus ticket, but instead listening for missing words, the dialogue has to be reorganized in a chronological order by clicking on the correct phrase in the drop down list. The procedure mimics a classroom exercise, in

which pairs of students practice speaking by asking each other sets of questions. The advantage here is that students can listen to the audio again, if necessary.

After this, there is a matching exercise with important places in a city, and the learner has to fill in the correct article, (der, die, das). These are not part of a previous "input", but if learners do not know the answer, they can view them in the glossary. As stated before, if learners do some research by looking up the words, learning is also possible.

There is a reading exercise where information needs to be interpreted. Here the times as well as vocabulary of important public functions, like "the bus" or "movie" are tested. A drop down list is given and learners need to click the correct one. This is followed by a reading study and a quiz on the market places, where the student has to answer "true/false". The reading comprehension is giving background information about the German market places and squares, which could give the learner valuable information about the cultural aspect of Germany's culture.

The specific learning outcomes that should be achieved in this unit by the learner are summarized in the following table:

Exercise	Learning Outcome : The Learner can…
1.Auf der Straße: Schilder	-with graphics as clues, can work out correct answers; - combine earlier language and vocabulary with new concepts, to match them appropriately;
2. In der Bank will Ellen Geld umtauschen.(Hörverstehen)	- listen to an audio, and then extract specific words and information from an authentic German-Language resource; - use German words to ask to "change money" ; -begin to use the standard politeness terms; (Sie / Ihnen instead of Du/Ihr);
3.Dafür soll Ellen ein Formular ausfüllen mit allen Personalien. (e-Mail)	- identify requests regarding personal information; - fill in personal details from memory, i.e. Name, Surname, nationality, address ….etc. on a identity form.
4. Für den Bus kauft sie eine	- listen to an audio, and then rearrange the order of the

Monats-Fahrkarte für Jugendliche.(Hörverstehen)	dialogue into the correct order; - imitate the pronunciation of the dialogue, and use it for help in the class room. - communicate in tasks requiring a simple and direct exchange of information.
5.In der Stadt - Zuordnungsübung (Artikel)	- recognize familiar vocabulary about specific places in the city; - identify the gender of specific places in town; (der, die, das)
6. Im Museum	- recognize translations of expressions of likes and dislikes;
7. Unterhaltung	- determine suitable expressions for likes and dislikes; - imitate the pronunciation of the dialogue, and use it for help in their own dialogues; - communicate in tasks requiring a simple and direct exchange of information;
8. Quiz: Information-Zeiten.	- determine the correct times in German, (either digital or written out). - understand vocabulary concerning time, e.g. spät, Őffnungszeiten, Schluß, fängt an; zuende? - interpret questions, e.g. Wann?, Wie spät? - recognize written vocabulary about the important places in the city, e.g. Bank, Post, Kino etc.
9. Plätze in der Stadt	- understand a text that consist mainly out of everyday language; - recall familiar vocabulary about the city, important places, and interpret questions thereof; - understand more about the cultural aspect of the city;
10. Dialog	- write from memory a simple dialogue between three students; - use a series of phrases and sentences to describe in

	simple terms personal matters, for example his/her background.
	- spell correctly when writing the dialogue;
	- ask specific questions concerning opening times;

3.4.2.5 Unit 5

Although Unit five has the sub themes of "asking for information", and "shopping", they are mixed, to provide variation.

It starts off with a matching exercise with translations, e.g. "Where do I find…..?. Following on that is a True/False exercise where information needs to be gathered from a photo, which is the information pallet for a huge CD-shop.

The types of media mentioned there should be easy for students to identify. Thereafter there is a diagram with the "shopping street ", and this is questioning the student where to find certain shops, (e.g. left of…, to the right of…..).

Similar to the question on the bus ticket, the student has to reconstruct the dialogue, where Ellen wants to buy a book. Students need to do a simple sentence construction exercise, similar to before, and translations, used in shopping, are tested in a matching exercise.

The last exercise is a bit more difficult, and meant for the learner that is up for a challenge. It takes the form of a quiz, where the student has to look at a map and find the correct directions. At this stage it is presumed that the learner would know the vocabulary of important places, and be able to interpret whole sentences.

The specific learning outcomes that should be achieved in this unit by the learner are summarized in the following table:

Exercise	Learning Outcome : The Learner can…
1. Sich erkundigen.	-understand simple phrases for asking directions in German;
2. Fotoübung: Im CD-Laden (Richtig oder Falsch)	- read short, simple texts in German and find selective, predictable information in simple everyday material, such as shop times, types of music; - identify German words that are the same as in English, and therefore used internationally;
3. Die Goethestraße	- implement words that are used for orientation, such as "neben, hinter, vor, gegenüber"etc.
4. Auskunft geben. (Ein Dialog)	- recall familiar vocabulary about directions used in everyday language; - understand a text that consist of directions, with questions and answers; - rearrange the order of the dialogue into the correct order;
5. Satzbau.	- reconstruct a simple question in the correct order, i.e. (question, verb, subject , object) - think logically: he can recognize the noun (Capital letter) and conclude that the other capital (Wo) would be the beginning of the sentence.
6. Einkaufen - suche die richtige Bedeutung	- recognize basic vocabulary and structures used in shopping for articles; - correctly translate simple phrases in personal interactions, for example asking and answering simple questions for prizes;
7. Ellen kauft ein Buch.	- understand and improve his basic vocabulary, phrases and structures used in shopping for articles; - catch the main point in short, clear, simple sentences and find specific words ; - improve the pronunciation by listening to a native speaker and imitate the sound;
8. Wo kaufe ich was? Matching exercise	- recall familiar vocabulary about shopping for articles used in everyday life, e.g. shoes; - identify the correct shop for each item;
9. Wo finde ich was? Quiz mit Karte.	- understand the main points of directions; - recall familiar vocabulary, including shops and important

	places in town, e.g. bank; - find specific information from a map;
10 Tagebuchbericht	- write a report of the days happenings in simple, understandable language, using basic vocabulary, phrases and structures;

3.4.2.6 Unit 6

'Essen und Trinken' is the name of unit 6, and starts off with vocabulary exercises. The first one is with pictures and a drop down list in which learners have to identify the correct ones, and the second one where they have to mention the food type, i.e. meat, fruit, or vegetable. Thirdly there is a crossword puzzle, and fourthly a translation exercise (where learners have to find the correct match) of food dishes that would normally be found in a restaurant. Exercise 5 follows in the same vain, but this time in German, and with pictures illustrating the food.

In the next exercise the menu of a restaurant is given with a multiple choice quiz. All the exercises before, serve as preparation for the last ones since these are about "ordering food in a restaurant." At this stage there is a dialogue, where the whole family (including the parents of Astrid and her brother Alex) goes out to have a meal. Testing vocabulary about ordering, a matching exercise with translations is included (e.g. What would you like….). There is a word ordering exercise for sentence construction and at last also a listening comprehension, where important words are left out in a gap fill exercise, which learners are supposed to listen to.

The specific learning outcomes that should be achieved in this unit by the learner are summarized in the following table:

Exercise	Learning Outcome : The Learner can...
1.Lebensmittel und Getränke	- with graphics as clues, recall familiar vocabulary regarding food articles;

2.Was ist das? (Fleisch, Gemüse oder Obst?)	- recognize familiar words about food; - organize the different articles into food groups;
3. Esswaren (Kreuzworträtsel	- begin to apply correctly the spelling of terminology that is relevant to school, i.e. subjects etc. -recognize the correct translation for each word;
4. Speisen auf der Speisekarte	- recognize basic vocabulary about food and dishes used on menus; - correctly translate simple dishes ;
5. Verschiedene Speisen	- identify familiar food and dishes, with graphic clues;
6. Hörübung Was essen?	- identify the correct foods by listening to the audios;
7. Speisekarte (Quiz)	- recognize vocabulary related to the menu, e.g. names of the dishes, as well as speaking about the dishes, like "teuer, billig, Hauptmahlzeit, Vorspeise" etc. - understand basic forms of questions like "Welche Mahlzeit", "Wann" und "Was"….etc. - extract information from an authentic German Restaurant menu and interpret it.
8. Wie bestellt man richtig?	- understand phrases and vocabulary related to ordering in a restaurant; - find the correct translation for each;
9. Satzkonstruktion	- reconstruct a simple sentence in the correct order, i.e. (subject , verb, object ,) - think logically: he can recognize the name of the subject (Capital letter) and conclude that the other capital (Ich) would be the beginning of the sentence.
10.Hörübung -Lückentext: Im Restaurant	- listen to an audio, and then extract specific words and information from an authentic German-Language resource; - use German words to ask to "order in a restaurant/cafe" -begin to use the standard politeness terms; (Sie / Ihnen instead of Du/Ihr); - imitate the pronunciation of the dialogue, and use it for help in the class room.

3.4.2.7 Unit 7

This theme is about a normal teenager's leisure time, which includes different types of sport, as well as watching TV in Germany. The first exercise includes vocabulary with pictures (with a drop down list), the second and third exercises with compound words of different types of TV programs. In Exercise 4 Ellen stays at home with the family, and they discuss the TV programs, in short mini dialogues, where the learner has to fill in adjectives according to the "smileys". Exercise 5 and 7 both are questions with true and false answers, with nr. 5 including an audio where Ellen and Astrid discuss the evening, and no 7 a reading exercise including Alex. Both these passages contain a lot of words about sport types and hobbies. They are linked by a listening exercise (no 6) which tests the meaning of words in English,(e.g. Radfahren). Two word ordering exercises for sentence construction follow on this, and to round off this section the learner has to write an essay about his own use of leisure time, and send it off to his teacher.

The specific learning outcomes that should be achieved in this unit by the learner are summarized in the following table:

Exercise	Learning Outcome : The Learner can…
1.Hobbies	- identify the correct translation of hobbies and sport with the help of graphics;
2.Kombiniere Wörter	-connect and combine the correct words, related to television programmes;
3.Was sehen wir heute Abend?	- with graphics as clues, recall familiar vocabulary regarding different programmes on television;
4.Minidialoge	- determine suitable expressions for likes and dislikes;
5.Ausgehen oder zu Hause bleiben? (richtig oder falsch)	- listen to an audio, and then extract specific words and information from an authentic German-Language resource; (detailed information) - imitate the pronunciation of the dialogue, and use it for help to create their own in the class room. - recognize familiar words and basic phrases spoken regarding likes/dislikes about hobbies and sport;

6. Was tue ich in meiner Freizeit?	- understand the pronunciation of vocabulary and structures needed for a simple discussion; - identify the correct English translation of each;
7. Alex und seine Freizeit.	- extract specific information from an authentic text ; - catch the main point in short, clear simple descriptions
8. Satzbau 1. 9. Satzbau 2	- reconstruct a simple sentence in the correct order, i.e. (subject , verb, object) - think logically: he can recognize the name of the subject (Capital letter) and conclude the order of the sentence from there.
10.Aufsatz	- write a report of the days happenings in simple, understandable language, using correct basic vocabulary, phrases and structures, i.e. likes and dislikes and feelings about hobbies and sport;

3.4.2.8 Unit 8

Unit eight is about train rides and buying a train ticket. The vocabulary in this unit is challenging, since the details of specific places at a train station usually are not included in a normal Grade 10 syllabus. Therefore this can broaden their horizon and vocabulary knowledge by looking up words. Taking in mind that the majority of South Africans do not make use of trains as they do in Germany, comparing the transport in the two countries could lead to interest and curiosity.

The chapter starts off with vocabulary exercises, with translations about places at a train station, a picture exercise with a dropdown list with places at the station, an exercise with word combinations.

Following this there is a listening exercise, where Ellen wants to buy a train ticket, where the learner has to answer true/false. Thereafter there is an exercise where the student has to create questions out of statements.

The very last two exercises are more difficult – the first one providing a reading text from a ICE-train brochure, testing global knowledge, not detail. The type of question is a bit different, because in mentioning a topic, it asks for the specific lines in which those topics are found. The last exercise is a letter, in the form of "open writing", where the

learner has to write a letter to the train staff regarding lost items that have been left on the train.

The specific learning outcomes that should be achieved in this unit by the learner are summarized in the following table:

Exercise	Learning Outcome : The Learner can…
1. Bahnhofplätze	- identify the correct translation of places at the station, e.g. "Ankunft"
2. Bahnhof- was ist was?	- with graphics as clues, recall familiar vocabulary regarding places at the station;
3. Zuordnungsübung (Wortschatz)	-connect and combine the correct words, related to the stations;
4. Fahrschein kaufen (Hörverständnis)	- listen to an audio, and then extract specific words and information from an authentic German-Language resource; - use German words to ask to "buy a train ticket" ; -begin to use the standard politeness terms; (Sie / Ihnen instead of Du/Ihr); - imitate the pronunciation of the dialogue, and use it for help in the class room.
5. Fahrschein kaufen (richtig oder falsch)	- recognize vocabulary related to the trainstations, e.g. ankommen, abfahren, besetzt, Raucherabteil, etc. - understand basic forms of times; - extract and process information from an authentic text;
6. Fragen....?	- ask relevant questions related to train schedules;
7. Der ICE - der Zug der Zeit (Leseübung)	- understand the main points of clear standard speech on familiar matters encountered in the train; - extract and find global knowledge, by scanning the passage;
8. Brief an das Fundbüro	- write a short, simple letter, inquiring about specific articles; - express himself using correct forms of grammar and phrasing;

Chapter 5

Conclusion

Summarizing, it can be said that with regard to the research question posed at the outset of the study (cf: 1.1.4) the following conclusions can be drawn:

The main question was if it was possible to provide meaningful revision tasks for Grade 10 learners of German SAL, which would fulfill the criteria, conditions and principles of the NCS SAL.

The first point of consideration was, to what possible didactic and pedagogical purposes the new media could be put. Meeting the demands of the curriculum was a prerequisite for using the new media in the language classroom, and ideally, this use should take advantage of the new possibilities that only this new medium can offer, respecting relevant aspects of research.

It was found that "Communicative competence" is the underlying principle of German SAL. The learners are taught the foreign language with the view to enable them to react adequately in a given situational context. In the National Curriculum, Communicative competence is commonly seen as comprising the four skills (listening, speaking, reading and writing) supported by the corresponding fields of vocabulary and grammar. The learner, the teacher and the computer (along with other teaching media) are arranged around the center, i.e. communicative competence. Although they may each take on different roles, they are interconnected with each other in the language classroom in different ways.

In the program the developer tried as much as possible to include instructional materials that would support teaching and learning skills and knowledge appropriate for the Grade 10 SAL, as well as content that would be supported by the contexts, lessons and activities. To support this instruction in the areas of listening, speaking, reading and writing, content is delivered as accurate as possible, (grammatically as well as culturally

appropriate), and it is hoped also in an interesting and engaging way for students. All the activities focus on the student's improving and demonstrating proficiency, and are an opportunity for students to increase their knowledge and understanding of the language and the new culture as well as opportunities to use technology to practice these skills.

Sequential organization of the program is supposed to provide structure to the program, which provides students the opportunity to listen, speak, (indirectly) read and write in the language and build on knowledge and skills. Instructional resources, aligned with the NCS SAL Gr. 10, introduce new knowledge and skills at a reasonable pace and depth of coverage and prepare students for later stages. There is a logical and coherent structure that facilitates effective learning in each unit. Activities and texts are organized from easy to difficult, meaning that easier skills and knowledge are developed before the more complex concepts and understanding that depend on them. An overview of the content in each unit designates how the chapter supports Language Learning and a glossary and link list are provided for help.

Included in the program are multiple measures to assess the student's progress. Teachers can use these to determine student's prior knowledge, or to evaluate his or her attainments at a given stage. The learning outcomes and goals are clearly stated. They reveal what students know and what they are able to do after each exercise. In the assessment of a learners' work, the approach in this program centers more upon recognizing the opportunity for learning through mistakes made by one self and others. Learners are able to learn from their own mistakes by repeating exercises as often as necessary.

With the syllabus serving as a basis, in this program the computer takes on the role of a complementary digital, didacticised source of information. It acts as accompanying authoring software for additional practice, a medium for saving, organizing and presenting classroom and student output.
In a language lesson the main concern is oral and written communication by means of natural language. Using this program, learning German may become something of an

adventure in the course of which different activities, problems and riddles are solved with the help of the computer. In many assignments learners are expected to explore language in authentic documents which are ahead of their level of language mastery. Even if the document which students work on is rather simple, (simple texts, key words, picture impulses) students may produce well-written texts containing only a few grammatical mistakes. The motivation of exploring new areas can trigger off a creative, playful approach to interacting with language in many learners.

Some recommendations for future research would be that it might be useful to inspect the possibility of introducing programs which could include recording learner's speech, where it is possible to let learners practice their speech, record their own dialogues, and send it to their teachers to be corrected. For practical language use, this would be a great addition to designing applications for learners.

To ensure that learners can achieve their best learning results, the developer reached the conclusion that it is of utmost importance to offer learners a variety of different social forms of interaction, as well as a rich language input using a variety of teaching media and tools.

Consequently, it is hoped that the application Deutsch 1, 2, 3!! will be successful in its aim to provide meaningful revision tasks for Grade 10 learners of German SAL and that it might be possible that it could fulfill the criteria, conditions and principles of the NCS SAL Grade 10.

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