

Exploring the Chemnitz Internet Grammar: examples of student use

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1. Research context and design

1.1. Context

The Chemnitz Internet Grammar (CING) is a research tool and a teaching aid at the same time. The aim of the research project¹ is to induce guiding principles for the development of interactive, learner-specific information retrieval (grammar) programs for the internet and to produce a program based on aspects of English grammar which applies these principles. The target group of users consists of advanced learners of English, mainly with German as a mother tongue; thus it concentrates on those areas of English grammar where substantial differences occur between English and German. The research results on learners' behaviour and preferences are always directly re-implemented in the grammar program, which serves as a learning tool. In contrast to other internet grammars, ours is essentially a double reference work: a database that enables inductive language learning using authentic examples, and a description of the grammar that enables deductive language learning using the "rules" contained within it. In many ways our grammar is based on the complex system of pedagogic grammar [PG] proposed by Corder as early as 1973, illustrated in his circular figure on PG in teaching materials with its interdependent four key elements inductive exercises, data and examples, explanations and descriptions and testing exercises. Through the related exercises and links, the reference work can be used for university-level language teaching and in-service teacher training.

Generally, our approach can be characterized by the following key-words: learner-centred, contrastive in the deductive component and data-based in the inductive component, interactive and learner-adaptive, e.g. providing immediate feedback and correction, in the exercise component.

1.2. Comparison with other grammars in hypertext and bookform

The Chemnitz Internet Grammar can of course be compared with other grammars that were published recently. The only other empirical and corpus-based internet grammar is the London Internet Grammar (1996-98), which is however neither contrastive nor has it an inductive component. The last point also goes for the other grammar books published recently: The Longman Grammar of Spoken and Written English (Biber/Johansson/Leech/Conrad/Finegan 1999) and Mindt (1999) are also corpus-based but they are not directly EFL-oriented. Our grammar is written explicitly for the foreign language learner like Celece-Murcia/Larsen-Freeman 1999, which however, in contrast to all the others mentioned, is not corpus-based. By combining corpus linguistic approaches with an EFL rule-based grammar we can also make it clear to the advanced learner that most language rules are not absolute but rather relative and there is a wide (acceptable) range between prototypical and creative constructions.

An important aspect of our deductive grammar (although the grammar corpus can be used to investigate all grammatical questions inductively) is that it is not a complete grammar (like Biber et al. 1999 or Celece-Murcia/Larsen-Freeman 1999) but it concentrates on exemplary grammar areas that make English special in many ways. In the German - English contrastive perspective, it covers three different areas so far, verbal, nominal and clausal:

- In the tense/aspect/modality section it emphasizes for instance the progressive aspect, which is not grammaticalized in verbal form at all in German, the present perfect, where the distribution in German is completely different, and modulation, where the preference is more towards the adverbial rather than the modal auxiliary construction (Schmied/Schäffler 1996).
- From the noun phrases our grammar discusses prepositions, as complements as well as adverbials, again since there are interesting differences between the two typologically closely related languages German and English.

¹ The project has been financed by the German Research Association (DFG) since 1998 as part of the New Media research group at Chemnitz University of Technology (cf. Schmied 1999 for conceptual and Gorlow et al. 2001 for technical aspects). It also serves as a basis for other e-learning projects. I wish to thank my collaborators Naomi Hallan, Diana Hudson Ertle, Christoph Haase, Angela Hahn and Sabine Reich for many interesting and thought-provoking discussions.

- The clausal level is represented by relative constructions, where the basic forms are parallel to their German equivalents but again the distribution is different, and conditional clauses, where the sequence of tenses is unusually strict in English.

The following presentation concentrates on the specific research aspects of our grammar, i.e. analysing learner behaviour. It illustrates the sociobiographic questionnaire, the tracking mechanisms and the first results of the experiments on student behaviour in the CING. It uses the verb phrase as an example and compares the deductive explorations of ‘grammar rules’, the inductive searches for corpus samples and the work on the exercise component. Many of the results are preliminary, which seems obvious since the CING is an on-going research project, which will keep us occupied for another four years.

2. Basic guidelines and assumptions

2.1. Tracking user behaviour

One of the basic assumptions of the CING research project is that different user types use different learning strategies, depending on age, language skills, exposure, computer literacy other variables that might have an influence on learning style. That is why our questionnaires cover a wide range of variables under three lists, general, language-related and computer-related. The influence of these variable on learning strategies is then compared in a statistical analysis where the sociobiographic data are compared with the recorded usage data. Of course, one of the central variables for us is the proportion of pages used in the explanations and the discovery sections. Fig. 1 thus shows that for many learners grammar is mainly a deductive exercise, only few venture into the inductive section. On this basis we can explore, for instance, which type of learner uses a relatively high proportion of the discovery section (which has less than half as many pages as the explanations section).

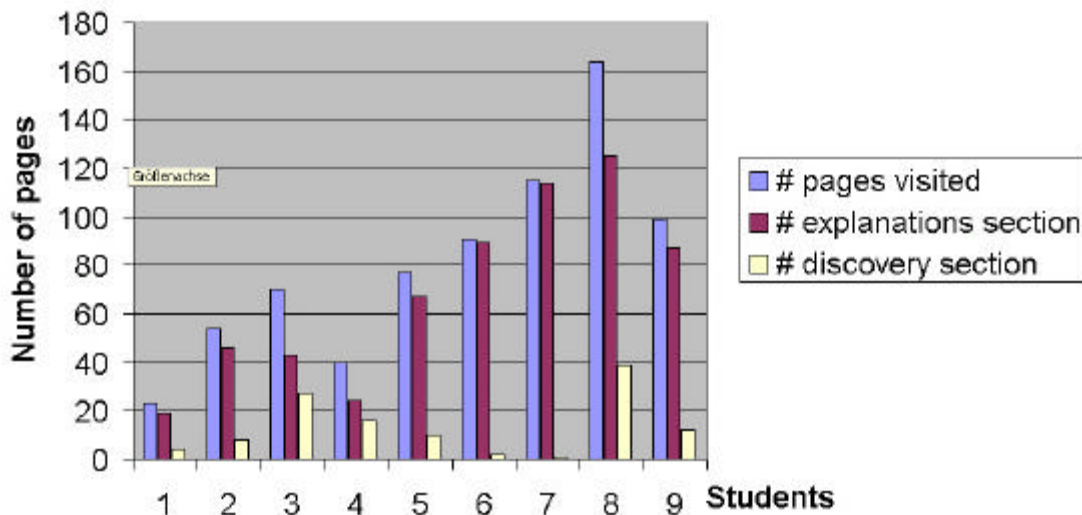


Figure 1: User diagram

The first results of our tests confirm the tentative conclusion by Yan-Ping (1991: 272) for Chinese learners of English:

With respect to the more complex properties such as the semantic meanings of the present perfect, explicit instruction does not show any superiority to implicit instruction. ... A tentative conclusion can be drawn that explicit instruction is effective with simple rules but not with complex rules.

Of course, whether learners can actually apply later on in tests what they have “learnt” by looking at on the screen depends on sociobiographic variables (like computer experience and language skills) as well as on presentation variables. In this context, the different perspectives on “learning” by specialists in linguistics, artificial intelligence and psychology have become obvious.

2.2. Hypertext advantages and disadvantages

2.2.1. Advantage: user-specific presentation of information

A usually infamous feature of internet presentations is that they are so “evasive”, i.e. they can be changed quickly and adapted to new conditions or knowledge - or disappear. For some research purposes it is a great advantage if we can experiment with various types of presentations and thus measure the “explanatory value” of presentations. Explanatory value here does not mean whether a linguistic concept or theory can explain all or the majority of the cases but whether a presentation applies more or less to an advanced language learner and (thus) a better effect on tested practical language skills (more than theoretical knowledge). For the English tense/aspect complex, for instance, we have several options: Leech and Svartvik (1994: 150f) have developed a comprehensive overview of tense and aspect, which can be used as a summary of the topic. The little diagrams there are however not directly related to the diagrams we used (cf. Fig. 2) because we thought they would be palatable for advanced learners of English (cf. Hahn/Reich/Schmied *et al.*). We used Reichenbach’s concepts as a starting point and presented speech time versus reference time as central to verbal time relations. In the students section we used prototypical examples and even animations to bring the basic ideas across, in the specialist section we used non-prototypical examples and problem cases (cf. also Schmied 1998).

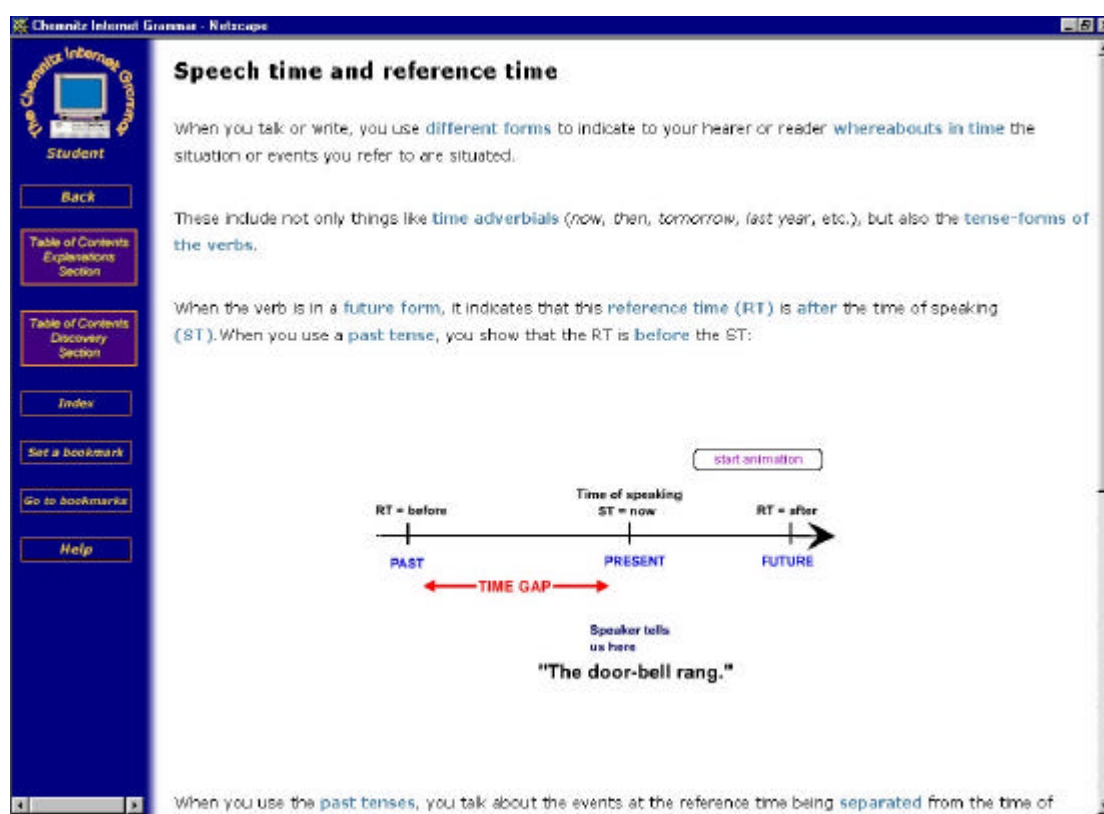


Figure 2: Speech and reference time

By changing the concepts, in some cases even the (syntax) theory displayed, we can determine the explanatory value in this sense. We can for instance demonstrate clines and genre distributions as in Biber *et al.* (1999) and Mindt (1999) and see whether advanced learners can use them to produce more prototypical sentences - far beyond the usual right - wrong dichotomy of “rules”.

Mindt (1999: 249) for instance just lists 9 meanings of progressive: incompleteness, temporariness, iteration/habit, highlighting/prominence, emotion, politeness/downtoning, prediction, volition/intention and matter-of-course (and exemplifies them with prototypical examples), but afterwards he singles out the first three as progressive meaning in contrast to non-progressive (*ibid.*: 250). This seems a good compromise for showing a cline from more to less central meanings. Although many students appreciate this type of guidelines, for a corpus-based grammar this approach may be surprising, since even Swan (1980) emphasises the collocational aspect when discussing the usage the progressive after certain verb classes and adverbs (*s.v.* progressive).

2.2.2. *Advantage: crossreferencing*

One of the basic advantages of an internet grammar, apart from the possibilities of recording user behaviour, is that information can be presented in a hypertext format, where more than one direction of thought and argumentation can be offered to the reader. Thus cross-referencing from progressive forms to collocations like stative verbs, prepositions and adverbs, which support or contradict the “progressive” interpretation of meaning, can show the complex network of grammar more impressively than any linear description. We had seen it as a main advantage to be able to link the main “branches” of our internet grammar not only to the “stem” but also to other “twigs” pointing in the same direction. This also implies “understanding difficult contrasts in tense – aspect combinations”, as they are called by Celce-Murcia/Larsen-Freeman (1999: 124-128). The idea of the grammar as a system, “the tense and aspect system” (ibid: chapter title), is essential to foreign learners of English whose first languages do not have aspect grammaticised in the verb phrase, since the contrast to “alternative” constructions has to be referred to constantly.

2.2.3. *Disadvantage: orientation and navigation*

One of the well-known problems of the internet is that its users tend to “get lost in cyberspace”. Our grammar is no exception to this rule, although references outside of the (so far) five hundred pages are few. Although we had clear frame signals which section the learner was in, explanations/discovery or student/advanced (cf. Fig. 2 above), although we provided a bookmark option and an index, our students obviously found orientation and navigation difficult in the hypertext maize we had created, where “one could not even quote page numbers”. So we had to put in a user history for learners who wanted to trace back visually what they had read during their current session, a tree diagram to show the structure of the section and a complex reference system on every page for those who wanted to quote certain pages.

2.2.4. *Disadvantage. self-contained pages*

One of the major claims of the Internet Grammar had been that it facilitates cross-referencing, but the non-linear structure also has clear disadvantages, since web pages have to be more or less self-contained. Thus a headline like “Why is there a choice?” is, of course, ambiguous if one does not get there directly from a page that has engraved it deeply into the reader’s mind that we are talking about the contrast between simple and continuous tenses. In the index a simple headline like this could refer to many “crossroads” in a grammar.

3. **Research results and their implications**

3.1. **Writer - user interaction**

One of the basic drawbacks of grammar writers has always been that it has been very difficult for the grammar writer to anticipate the needs and learner strategies of the user. This is a special case of expert - layman interaction although, of course, at least in an EFL context a certain grammatical awareness (in a sense of familiarity with linguistic thinking and terminology) can be assumed in a foreign-language context (in contrast to British schools where it has been deplored for a long time).

In our internet grammar we can not only discuss with our students to gain qualitative information from actual users and distribute questionnaires to collect more quantitative data - both measurements are relatively subjective and have to take into consideration that even if students actually knew what they are doing their answers might be adapted by the need to make a good impression with the grammar teachers. With the help of computers two more objective ways of measuring how students use grammars can be applied:

- In off-line experiments we can use an eye tracker to record how students read texts and how they gather information (in this case on grammar) from a webpage. Here hesitation phenomena may indicate problems of terminology, a negative interpretation, as well as inspiring thoughts, a positive interpretation.
- For on-line recording we have developed a special procedure which records all the URLs that were called up, the reading time, the user input and the user ID. The recorded data in their raw format are not easy to interpret, thus we wrote a special software programme to make the figures of the individual sessions more palatable for the interpreter. Through a different little programme the data of individual users are transferred into an SPSS file so that a comparative quantitative analysis can be undertaken.

3.2. Terminology: boring stuff - catchy language?

One of the great prejudices against grammar is that it is boring. In writing our grammar we therefore experimented with more “adapted”, user- or age-group-specific language, such as “Is it simple: be progressive, use the continuous” (Fig. 3), which we thought would be appropriate for the students. This headline indicates at least three ideas.

- Although there is an important difference between English and German in the use of the progressive it is not difficult.
- The use of the progressive or continuous forms is a modern feature which is part of grammatical change and progress in British English.
- Progressive and continuous are two terms that indicate more the function and the form respectively but ultimately refer to the same thing.

Most of these thoughts or even innuendoes were lost on our students. They considered grammar writing a serious business and were not trapped by the “young” language at all. They rather considered some of it inappropriate and distracting. This indicates that witty grammar writing at least on advanced topics is only something for the very advanced user. Thus, catchy language seems to be more appropriate for the expert to expert communication than the expert to layman communication.

A further problem with this style is consistency. Thus have not been able to come up consistently with witty headlines or direct reader-specific questions and relapsed back into the traditional headlines like “Verbs of state and mental states”, “Verbs of bodily perception”, etc. - and this tradition was not too bad sometimes after all.

It has to be remembered that consistency in grammatical terminology seems very desirable from the learners’ point of view. Whereas applied linguists often play with overlapping concepts, students struggling with concrete problems only find it confusing when “similar” ideas can sometimes be found under the heading “continuous” so other time under “progressive” (thus most grammars rightly use only one term as central).



Figure 3: Be progressive

3.3. A bilingual approach?

One result of our bilingual basis and contrastive analysis was that we also used the translation database to exemplify meaning in the explanations section and in the exercises (Fig. 4)².

Unfortunately, German students very often looked at the German equivalents first; that means that the old notion of the monolingual teaching tradition is challenged, when the students suggested that - in particular in such cases where there is a marked contrast between the first language German and the second language English there would be very useful to look at the translation equivalents. Maybe, however, the students should not be given the easy option of the German equivalents? In an internet grammar one can of course change the presentation for a certain group of users and investigate whether the test results or the reactions are significantly different.

4. Outlook: cultural and tutorial systems

In the second phase the CING will be expanded into a more diversified and comprehensive learning tool (and thus research instrument). In this context more diversified means that learners in the grammar will be given more choices or that different learner groups will be presented with different, more appropriate versions. More comprehensive means that learners will not only be given grammar sections to read but complete authentic texts, so that they can also practise and we can also measure the comprehension of lexemes, idioms and cultural conventions. This will be achieved by introducing more “distanced” texts in the learning tool: texts from non-European English-using cultures like East Africa, where English is used as a second language and has to be adapted to the specific environment and sociocultural conventions.



Figure 4: MC-EXERCISE

We will not only present new texts but also new learning aides such as a culture-specific lexicon that enables the non-initiated user to acquire not only grammar, but also “culture”, as it is encoded for instance in such contrastive concepts like *askari* (Kiswahili for *watchman/policeman*) or *jui kali* (for “under the hot sun”, i.e. informal) *sector*. It should be mentioned here that the verb phrase also include

² This figure also serves as an illustration of our (traditional) multiple choice questions and the reactions generated automatically by our system. After completing the exercise students can receive a summary of their results and recommendations for further study.

culture-specific variation. The expansion of the continuous forms to stative verbs in cases like *it is costing a lot* is very common feature in second-language varieties of English in Africa and Asia and has mainly intralinguistic reasons. The reduced usage of modal verbs can be seen as culture-specific, most second-language users would consider it exaggerated to use too many *Would you be so kind to/Could you please ...* -forms.

With the expansion of the internet anyone in Europe for instance has access to East African newspapers on the internet even before the direct readership in East Africa can hold them in their hands. This raises the more general question how cultural outsiders cope with culture-specific expressions and our research could make a contribution to fast-growing area of intercultural communication. In order to measure that we also intend to develop new test methods for the internet, such as

A second new development could be user-specific tutorial systems. Obviously many users have, initially at least, found it difficult to use the system efficiently, as we can see from the tracking records, their help calls and their interview comments. Thus the option of a “guided tour” for newcomers seems appropriate. Although this offers new research perspectives, we have to bear in mind that this also skews our original research, which concentrated on monitoring unrestricted user choice according to individual learning strategies and initial “guidance” influences personal learning styles. For many learning systems however tutorials are a decisive factor, therefore gathering information on their usage and influence only adds a modern dimension to the old problem how grammars are used. There are of course different tutorial systems possible for the Internet Grammar:

- A straightforward walk-through simply illustrates what is written in the existing guidelines anyway and animation is generally more appreciated by internet users than running texts. The linear sequence of slides like the well-known PowerPoint presentations can be implemented without much effort.
- A more interactive tutorial would be more in line with the original principles of the CING. Such a tutorial uses learner input either immediately or from earlier sessions to select appropriate versions of grammar sections. The effect of a machine recommending “You need to practice more PROGRESSIVE TENSES” suggests objectivity and urgent need to many students.
- A fully adapted tutorial includes much more: learner-specific information from the sociobiographical questionnaire and results from placement tests etc. Here even inconsistent input can be identified and learnertype-specific information, such as successful patterns of learning strategies can be included so that a very diversified and modular system evolves. This is a major step towards fully autonomous learning systems without a personal tutor.

This brief outlook shows that the learning system developed under the name CING can make a more general contribution to the development of our society, which is said to be moving towards a new internet and knowledge society. Whether modern human beings that use an internet-based system like the CING really appreciate this development is not clear, but we can at least indicate in a very limited area where usergroup-specific preferences tend to lie.

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