Language Learning Software for those in the Now

Responding to the Call for Flexible and Participatory Language Learning Tools

ABSTRACT

There is at present an enormous demand for self-directed learning resources for foreign and second languages across a full spectrum of learners - including those in higher education, commerce, government, military, and those engaged in the project of lifelong learning for personal ends. The Web and digital media in general can contribute vastly toward fulfilling this end, but their promise is undermined when their use is not informed by sound pedagogical principles. This paper outlines a commercial software-based language learning course that aims to utilize interactive digital media to create a participatory learning environment - one that builds flexibility into its design and caters to a range of learning preferences.

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Introduction

The telecommunications revolution of the computer age goes hand in hand with another revolution - that of language learning. The two drives are mutually enhancing: the more connectivity new technologies create, the more that languages - and cultures - converge. At the same time, with digital multimedia the ability to learn a language has never been easier or more accessible. Digital technology has enabled marked advances in terms of audio recording, interactive learning resources (that provide real-time feedback), and social networking tools (that cultivate learning communities that can be as diverse culturally as they are geographically). All of these resources have powerful implications for language learning. In addition, many digital language learning resources are available in downloadable form online, and audio materials are often portable - for use in car stereos and MP3 players.

There remains something of a disconnect, however, between effective learning tools and learning methods - that is, learning technology and methodology. As Gerhard Fischer and Eric Scharff (1998) suggest,

> One of the major misunderstandings in our current debate about enhancing learning with new media is the assumption that technological advances will, by virtue of their very existence, improve the quality of learning. New technologies and media must be more than add-ons to existing practices.

The difficulty in using learning technology and learning theory in concert is compounded by a relative lack of new knowledge about how learners actually learn online and in rich media environments. Many of the models of learning styles and preferences in circulation today were constructed pre-WWW and do not fully account for the material conditions in which today's learners - who are now typically surfers, networkers, bloggers, podcasters, or gamers as well - find themselves. In some cases new media is used for the sake of new media, a problem often more pronounced in commercially produced courseware, which might be extremely advanced in terms of technical design but lacking in educational design. As Mark Warschauer (1996) writes,

> While teachers themselves can conceivably develop their own multimedia programs ... the fact is that most classroom teachers lack the training or the time to make even simple programs, let alone more complex and sophisticated ones ... This has left the field to commercial developers, who often fail to base their programs on sound pedagogical principles.

Nonetheless, commercial courses that are sensitive to contemporary trends in pedagogy can provide effective language learning solutions. In fact, they can exploit new media technologies to offer functionality and connectivity that extend well beyond traditional classroom environments. In order to do so, however, they must maintain a close relationship between pedagogical developments in the field of computer-assisted language learning (CALL) and the affordances of digital media in the culture of Web 2.0.

Learning, Teaching, and Machines

Computer Assisted Language Learning (CALL) refers to the use of computer-based learning materials designed to accommodate self-paced and student-centered learning of a target language. It can be traced back to the 1960s, before the inception of personal computers and computing, and is often divided into three phases historically (Warschauer 1996).

The first phase is referred to "behavoristic" CALL because it followed the prevailing "stimulus and response" theories of education modeled after B.F. Skinner. The computer simply provided a stimulus (question) for the student to input a response (answer), then returned active feedback to the student based on immediate analysis of the student's input. Repeated engagement with material in a drill-based format was seen as essential to effective learning, and the computer was seen as an ideal medium to make this process more efficient by automating it. Computers could make the rote system of learning by drills much faster and more accessible by closing a feedback loop that previously required a human agent to analyze their answers and give feedback (for example, the computer could respond with a bell if you're correct, and a buzzer if you're not).

The PLATO system (Programmed Logic for Automated Teaching Operations) was an early mainframe computer system developed at the University of Illinois in the 1960s and the first purpose-built for educational instruction. It is commonly considered as a starting point for CALL in general. Even though it is credited for innovating more dynamic functions including online forums and message boards, and even multi-player online games (Wooley 1994), its popular legacy - along with other mainframe systems utilized up until the late 1970s - was the drill-based system of rote learning activities. It focused on learning through analysis of the language.

A second phase, referred to as "communicative" CALL, further recognized the communicative potential of the computer to aid the student in language learning. It coincided with the emergence of the personal computer, which, along with the first publicly available language learning software, dramatically expanded the field from the late 1970s and 1980s. In this phase, analysis of the language (grammatical understanding) becomes secondary to a

context-based comprehension and applied use of it. Drill-based formats were replaced by exercises where the student would have to demonstrate comprehension of given material through self-paced reading exercises or task-based learning. For example, the learner might be asked to provide directions to a computer-based character who is lost. The question, the answer, or the entire exchange can occur in the target language.

Communicative CALL also marked the use of computer games, such as *SimCity*, to simulate conversational contexts where more dynamic dialogue could transpire in the target language between learner and an artificial agent. Input was still text-based (and in many cases, *SimCity* included, the games were not designed for language learning). But these simulations required more cognitive effort from the participant, who assumed more autonomy in the learning task.

Although in some ways a more sophisticated extension of behavioristic CALL than a break from it, in communicative CALL systems the computer in effect still holds the "correct" answer and retains a tutor-like position. Nevertheless, in this phase activities and exercises attain more complexity, learners gain more control over their learning, and in general the computer is reconceived as not simply a teaching machine that delivers content but also a communicative tool. Many educators still came to see shortcomings in the communicative approach, which they believed centered on using the computer to teach language skills in a disjointed and compartmentalized way (Warschauer 1996).

The third phase, described as "integrative" CALL, seeks to address these shortcomings by integrating what were seen as discrete language-learning skills into more cohesive tasks or projects. Pedagogically, it is also the phase informed most heavily by constructivist theories of learning, whereby the student actively constructs new knowledge based on an active engagement with a diverse set of materials, people, experiences, as opposed to simply acting as the passive receptacle of (pre-constructed) knowledge that is transmitted from teacher to student.

This phase begins in the early 1990s and, significantly, coincides with the ascendancy of multimedia technology and the World Wide Web. Beginning with programs based on CD-ROM, images, sound, and text were able to be used together with greater ease in the service of developing the four basic skills of language learning: listening, speaking, reading, and writing.

Even though these three phases are presented historically, it is important to recognize that there are valuable developments in each phase, and that each new phase does not necessarily supplant what comes before it. In fact, it is also possible to conceive of each category in a non-historical way, for example, respectively as "restricted," "open," and "integrated" (Bax 2003).

An ahistorical view underscores the fact that the "integrated" approach is truly a synthesis of the best aspects of the other language learning modes, all of which are still utilized in some form today.

But the project of integration itself is by no means straightforward; in fact, with computer-based tools available now more than ever to learners and teachers alike, embarking on a path (or paths) of computer-assisted language proficiency can seem overwhelming rather than empowering.

A Multimedial Medley of Tools

Many of the language learning tools that had already made use of technology, such as pre-recorded audio, were reinvented with digital media. For example, audio-based courses, which began their life on cassette tapes in the 1970s and 1980s have migrated to CD or digital sound files with the movement from analog to digital media. They can be incorporated much more easily into computer-based courses as a result. Indeed, we've come a long way since Barry Farber, in his popular guide book *How to Learn Any Language*, remarked that "the invention of the handy portable cassette player catapults language learners from the ox cart to the supersonic jet" (1998, 35).

The World Wide Web has also had dramatic implications for language learning, both as delivery mechanism for downloadable material and as a virtual learning environment in itself. There are countless websites devoted to language learning ranging from personal sites such as Francois Micheloud's popular "how-to-learn-any-language.com" to the language learning sites that house the U.S. Government's Foreign Services Institute (FSI) Language Course materials, developed in the 1950s for diplomats and now in the public domain. There are also translation sites (such as Babel Fish), online foreign language dictionaries, and an array of foreign language newspapers, online magazines, and websites, which are all potential language learning resources.

The Web enables a host of computer-mediated communications, which, although present since the inception of the Internet in the late 1960s, are only fully realized and accessible with the advent of the browser-based interfaces of the WWW. These include synchronous communication tools (in the form of instant text messaging or video-conferencing tools) and asynchronous communication tools (forums, discussion boards, and even email comprise this category).

There are also virtual learning environments that make use of synchronous communication in three dimensions: multi-user role-playing games combine the networking capability of the Internet with the graphical and interactive capability of contemporary game engines to create formal and informal language learning venues. In the popular virtual world of *Second Life*, for

example, one can pay tuition and enroll in a virtual language course that spans several weeks or even months; or, in the same game, one can simply arrange to chat with another player in their target language. If that language is Spanish, they might be speaking to a bilingual person located in the same state, or a Spanish person living in Spain - the effect is the same.

All of these tools can be applied to great effect toward language learning, and many underscore the social networking drive of Web 2.0, which is all about connecting learners in peer-motivated communities that transcend geographical and cultural lines. But multimedia and Web-enabled tools alone do not represent the "now" of computer-assisted language learning. Any media-rich language learning solution must also strive to reflect current trends educational theory and accommodate the needs of learners that are equally varied.

Learning Methods in Light of Computers

Multimedia language learning materials are often also multi-linear language learning materials; that is, they make use of hypertext and hypermedia to allow the learner multiple pathways through the course. This might involve anything from an omnipresent link that allows users to seek additional help or gloss certain verb changes, to the ability to do certain lessons before or instead of others; or it might simply enable the learner to move seamlessly from one course component to another - from an interactive quiz, for instance, to a forum thread where peers are discussing some of the finer points of the quiz questions. Interlinking resources is an important step toward empowering the learner, and one that is crucial to the integrative impulse of CALL. It is something that commercial courses can achieve quite readily.

What is more challenging for commercial developers, however, is accommodating a diverse constituency of learners. It is a problem shared by teachers but to a lesser extent. (A high school teacher of first-year French knows, at the very least, that he or she will be teaching first-year French students, which makes it easier to create a curriculum.)

There is still much debate regarding the notion of "learning styles"; more specifically, the idea that an individual is pre-disposed to learn in one way as opposed to another, and that this style simply needs to be identified by means of assessment. The prevailing consensus is that different people do indeed learn in different ways, but there is little consensus on how to best determine or measure these differences. There have been nearly 80 models of learning styles proposed since this field of research began in the early 20th century, of those 13 are considered to be major models (Coffield, et. al., 2004, 1). Many in the field have opted to deal with learning "preferences" rather than "styles," which offers a productive way to circumvent this impasse.

Perhaps one of the most common and recognizable models of learning preferences is the VAK model that employs the distinction between *Visual*, *Auditory*, and *Kinesthetic* learners. In this model, even though learners use all three modes to receive and process new information, they tend to actively prefer one over the others. But even this model is noticeably outdated in its finer detail. For example, in Joy Reid's (1998) description of the "Visual Major Learning Style Preference," there are learners who "prefer to see words in books; understand material through reading; can learn alone with a book." And the "Auditory Major Learning Style Preference" in the same model refers to those who prefer to "hear words spoken; remember information from reading aloud; benefit from audiotapes, lectures, class discussion." (cited in Felix 2001, 350-51) How do these categories apply in online or multimedia environments, where visual and auditory modes are employed simultaneously and with markedly different tools?

Furthermore, would a role-playing game in virtual world somehow extend the Kinesthetic learning preference, which refers to those who learn through touch and movement, or would their "movements" through a three-dimensional landscape onscreen warrant some kind of new category? From these questions, it is clear that even the most basic models of learning preference need to be revisited in light of new digital and online tools.

In any case, as commercial developers of language learning products, we are not in a position to assess learning styles. What we can do, however, is allow learners to exercise choice in following what they consider perceive as their learning *preference* by providing a course that has in-built flexibility in terms of its educational design.

A Flexible & Integrated Solution

Rocket Languages is a commercial developer of language learning courses that integrate a wealth of learning resources through a single Web-based software platform. The courses include: interactive audio lessons; text-based grammar and culture lessons (with dynamic exercises); learning games (for pronunciation, vocabulary, and verbs); and peer-to-peer learning tools in the form of instant messaging and a learners' forum. These materials are also available "offline" in the form of CD-based packages, which allow learners to use the audio lessons without a computer, with the same audio material available in MP3 format for added portability.

The design of Rocket Languages courses ensures that material is presented along multiple channels to accommodate a degree of self-directed learning and that there is genuine interactivity that draws on active learning strategies. The goal is to enable "conversational fluency" in the target language in the shortest possible time.

Interactive Audio Lessons

A popular appeal of commercial language learning software is its ability to deliver audio material playable in portable media that allows users to learn "on the go" (while we commute, jog, or wait on line). Short of an intensive language immersion holiday, audio material is an ideal resource in that it allows learners to hear the target language spoken by native speakers and, in turn, practice it in a comfortable (private) and convenient (portable) manner.

Many commercial courses, however, still present audio material in such a way that reflects outmoded methods of computer-assisted language learning, whereby the listener is involved in a repetitive cycle of "listen and repeat." Material is compartmentalized, divorced from its context, and users are often bored by the "drill-and-kill" method in audio form.

Rocket Languages recognizes that the best way to learn how to speak a new language is to actually speak it. Or, to paraphrase Barry Farber (1998, 5), it's not about learning the language *before* you use it - it's about using the language so you can learn it. For this reason, interactive audio lessons form the cornerstone of our learning program and are the first step on a recommended learning path through the course materials for all users.

Audio material can be presented in many ways. But in order to be effective, engaging, and enjoyable, it should incorporate several important criteria in its design:

Wherever possible, audio material should involve **context-based learning**. The 31 interactive audio lessons included in Rocket Languages courses are based around 31 conversations between the host and one or more native speakers. The host is fluent in the target language, but it is not his or her native language. The conversations are organized into a governing narrative that moves from very basic interactions (greetings and survival phrases) to more advanced exchanges (booking a room, talking about sports, and dinner conversation). In doing so, the structure of the audio course draws on the appeal of both *dialogue* and *narrative* material for language learning.

Audio material should moreover promote **active learning** through techniques that prompt the listener for responses rather than simply instruct them to repeat words and phrases. American linguistics professor Dr. Paul Pimsleur refined many active learning techniques in the latter half of the 20th century, which have been applied to a number audio-based language learning courses, including those sold under Simon & Schuster that bear his own name.

One of those techniques involves "challenge and response," which prompts the learner to actively recall a word or phrase that they have previously

learned. After a short pause in the audio, the host will confirm the correct response. A simple yet vital technique for retention of new vocabulary, this process can be carried out over the course of a single lesson, or can be a matter of bringing material learned in a previous lesson back into play in the new context of a current lesson.

Rocket Languages audio lessons do both. The challenge and response format is used to review and reinforce material within each lesson by way of a "Rocket Review," which selects words or phrases from the lesson dialogue, presents them in English, and prompts the learner to say them in the target language. For an example of reviewing material across lessons, suppose in lesson 5 one learns how to say, in the target language, "I walked to the store" and lesson 10, a lesson about reading, introduces the word for "library." At some point in lesson 10 the host would combine both elements and ask the learner how to say, "I walked to the library?"

A final aspect of effective audio course design is using the audio-format to promote **participatory learning** - namely staged participation in realistic conversations. Granted, nothing beats having a face-to-face conversation with a native speaker to steer the learner toward conversational fluency. But it is possible to exploit the audio format to stage "simulated" conversations between the learner and the characters who deliver the lessons. Rocket Languages interactive audio courses conclude with an "All Conversations Role-playing Track."[1] In this track, all of the conversations that appear in the previous lessons are assembled together and presented in three versions.

The first version includes both voices in the same way as they are presented in each lesson. During these recordings, the learner only listens. In the second version, the voice of the non-native speaker is removed from all of the conversations, and a pause is left for the learner to play the part of this speaker. The third version, then, gives the learner an opportunity to play the role of the native speaker, who typically has longer and more challenging lines.

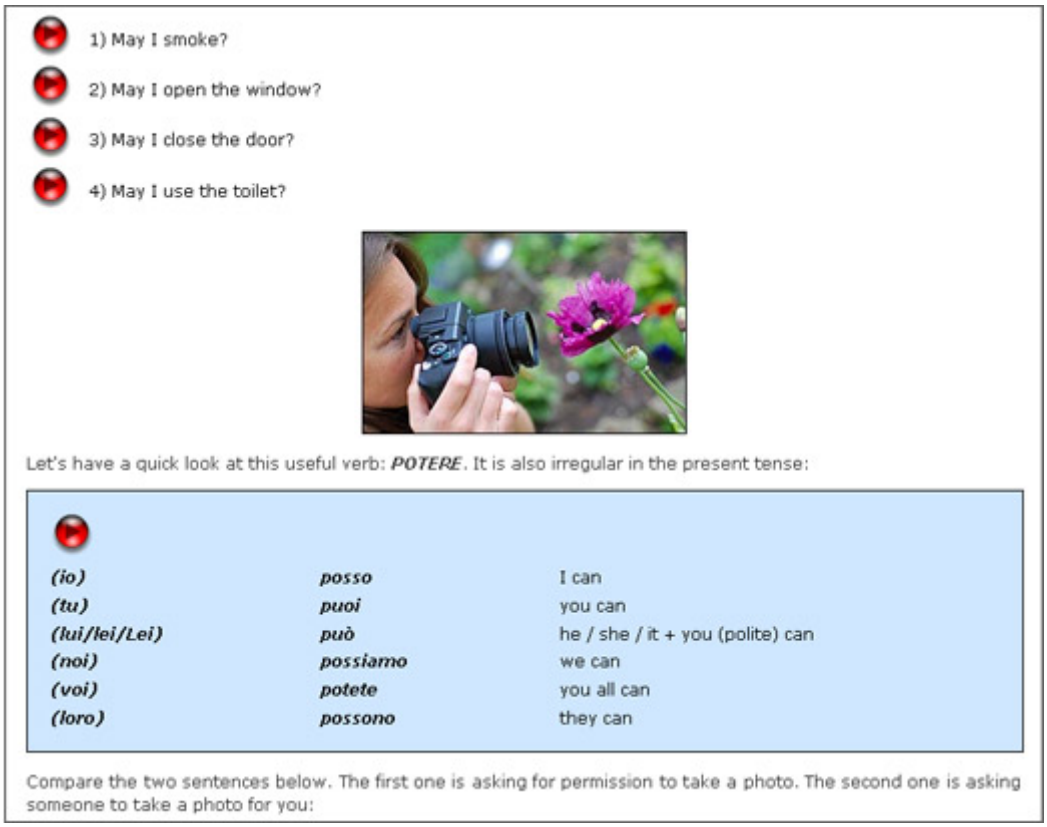
Users are able to refer to written transcripts of the conversation if they prefer, which are included for all of the conversational dialogues and new vocabulary in each lesson. In fact, the extensive supplementary written material included with the audio lessons sets Rocket Languages courses apart from other audio courses, including the Pimsleur-branded courses. In these courses, learning without textbooks, written exercises, or drills is a selling point. But given that many learners prefer to learn with this material, there appears to be no reason why they should not be given this option.

[1] This feature is still under development for some of the languages as of October 2008.

Grammar & Culture Lessons

Each of the 31 Interactive Audio Lessons comes with a corresponding "Grammar and Culture" lesson, which allows learners to explore the mechanics behind the spoken word. These lessons are Web-based and multimedial: they include photos, illustrations, and embedded audio clips. In addition, they are interactive: they engage the learner with exercises on grammar, vocabulary, and cultural topics and provide immediate feedback.

Although exercises such as these are characteristic of the first phase of computer-assisted language learning, their inclusion is by no means a throw-back. As Robert Godwin-Jones (2007) writes, "[S]uch exercises continue to be created and used and can still play a useful role, particularly when paired with more open-ended, communicative tools and integrated into a multimedia-rich, collaborative on-line language instruction environment." In addition, because the exercises are nested in the governing course management software, the results can be recorded, and exercises repeated, allowing learners to track their progress.

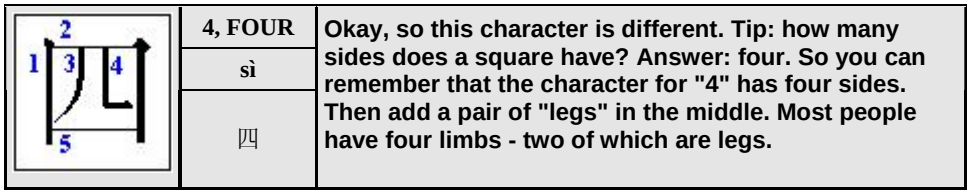


Screen shot of Rocket Italian Grammar & Culture Lesson displaying embedded audio clips.

The cultural component of these lessons is a valuable one, as learning any new language inevitably entails learning something of a new culture.

For example, learning the elaborate system of Japanese honorifics is only really useful if you learn exactly when, where, and with whom to use them, and the cultural etiquette that accompanies formal conversations and exchanges cannot be separated from the words.

All of the lessons include a grammar and culture section, and the lessons in the Japanese and Mandarin Chinese courses include additional sections on writing instruction for their character-based scripts. In these writing sections, instructions on stroke order and helpful mnemonics are provided:



Example of writing instruction from a Rocket Chinese Grammar & Culture Lesson: instructions for writing and remembering the Mandarin character for the number four.

There is general debate about if or when grammar should be learned when acquiring a new language, especially when a learner is trying to attain conversational fluency as opposed to "mastery" - a term that tends to imply grammatical and syntactical mastery.

But even though *grammar* can be a dirty word for some, conceptions of language learning as "academic" and "non-academic" are not mutually exclusive ones: it can be a topic of serious study for some, a hobby, diversion, self-improvement exercise for others, and a business imperative for others still. It is a cold hard fact of language that there are concrete rules (i.e. grammar). The trick is to convey challenging grammatical concepts in plain English, so to speak, even when there are no equivalent grammatical concepts in English for certain rules of the target language.

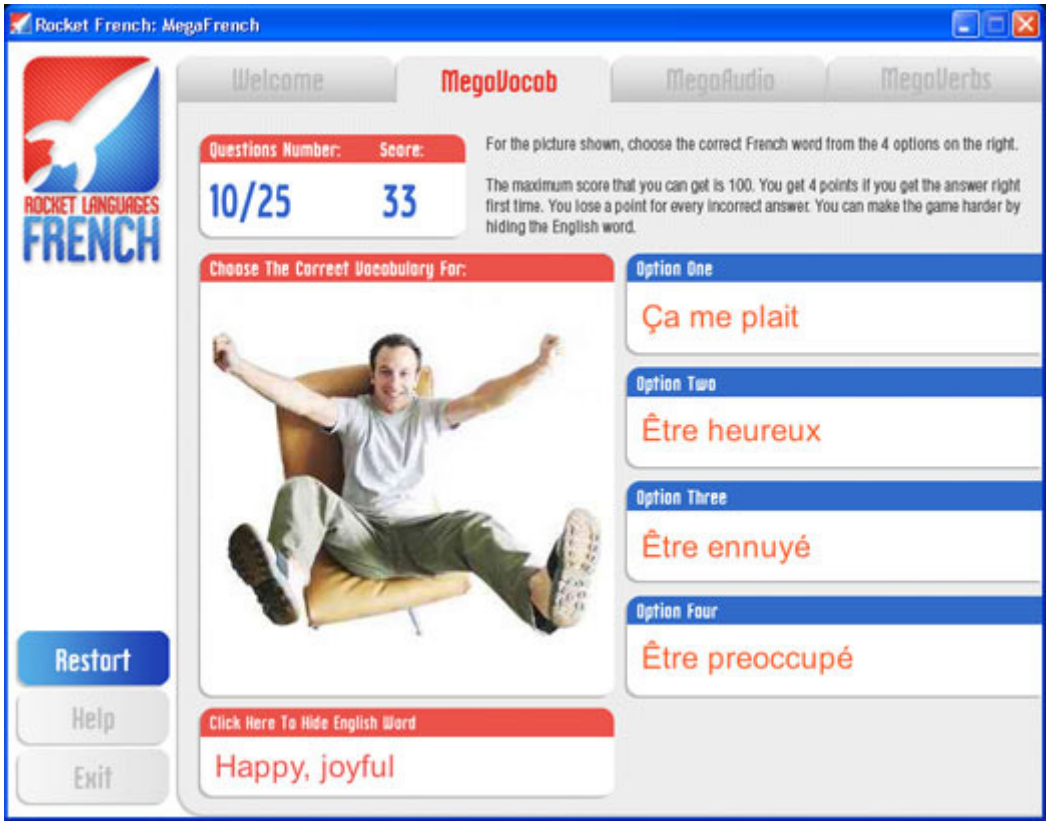
In the audio lessons, Rocket Languages courses always introduce grammatical concepts on a need-to-know, context-based, and non-technical manner. For some learners, the Grammar & Culture lessons that follow are a language learning panacea; for others, they are, in a word, optional.

Software-based Learning Games

Software-based learning games are the third major component of the Rocket Languages product package, one that supports self-directed learning and varied learning preferences in significant ways.

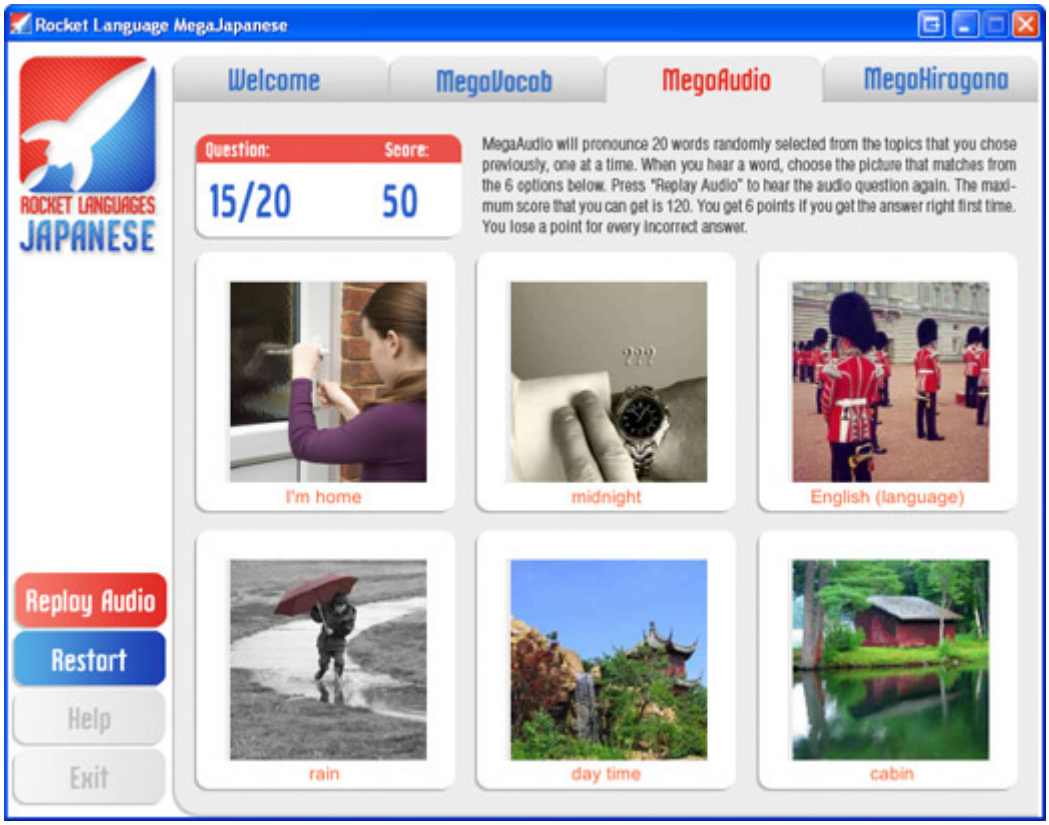
There are three games included in the product package: one for vocabulary, one for audio comprehension, and one for practicing verbs (there are some variations in the Asian languages so that users are given an opportunity to acquaint themselves with the character sets in those languages along with the romanized scripts). All are self-paced and can be repeated so that learners can improve their score.

In the vocabulary and audio comprehension games, users can choose questions based on 20 common topics by selecting some (or all) of them each time they play. In the vocabulary game, an image is displayed with a translation underneath, and the user must choose the corresponding word in the target language based on four options. In addition to the ability to choose topics of preference, the game has further flexibility in its design: users have the option of "hiding" the translated text that appears underneath the each image.



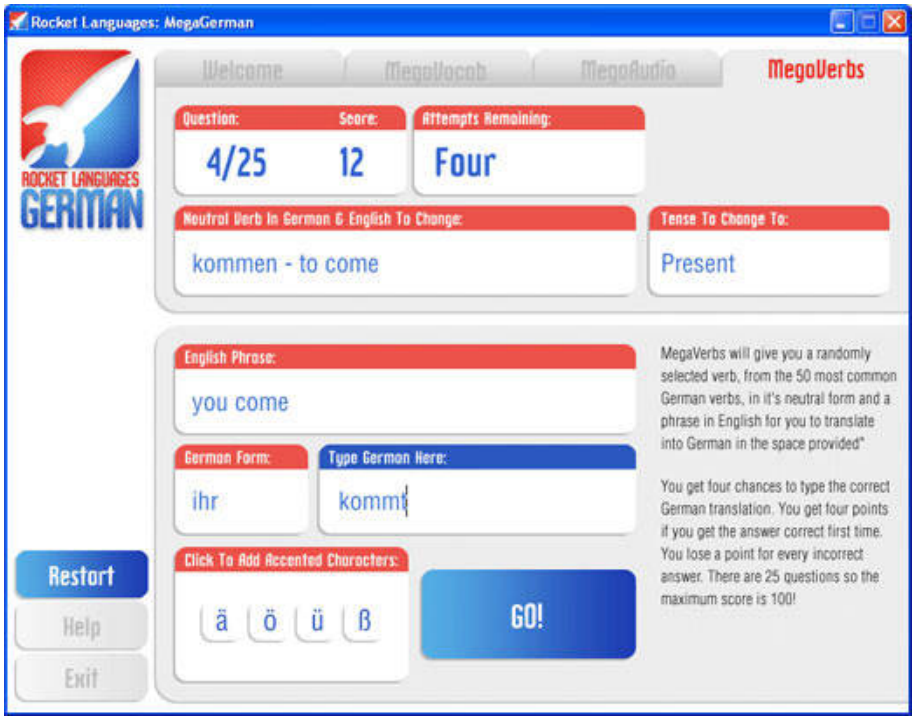
Screen shot of the Rocket French vocabulary learning game.

In the audio comprehension game, users play an audio clip of a word or phrase in the target language and select the corresponding word or phrase from six options displaying image and a translation.



Screen shot of the Rocket Japanese audio comprehension learning game.

The verb practice game differs from the other two in that it involves writing in the target language. Users are given a verb from a database of 50 of the most common verbs in the target language, and also a tense to change the verb into. They type the conjugated verb into the answer field.



Screen shot of Rocket German verb learning game.

Breadth and flexibility give Rocket Languages learning games some advantages over other popular commercial platforms. Some programs use a system whereby audio clips of phrases spoken in the target language are paired with a choice of images. Once simple words are learned intuitively, more complex phrases and sentences are constructed using the vocabulary that has already been learned.

This system is designed to reflect the way in which we "naturally" learn languages as a child; however, it does not accommodate learning preferences of those who remember words by *seeing* them in translation, as it does not offer translations in textual or audible form. Not having any translation available potentially causes further problems given that the link between the target language and image is always to some extent arbitrary. For instance, an image of a woman reading a book could be used to suggest both "woman reading" and "woman studying." In such interfaces, there would be no clear way to know which verb is being used in the question in the target language.

In addition, it is debatable whether or not the attempt to mimic the way we learned our *first* language should be the ideal of foreign language acquisition. True, a child learning language represents the immersive ideal - a pure form of trial and error with constant feedback, and an unself-conscious environment in which to make all the right and wrong sounds while learning. But even if the ideal of learning a language "naturally" and like a child is only that - and *ideal* - it is not necessarily a well-guided one. After all, unlike children, adult learners already have the capacity to interpret symbols

(i.e. read) and grasp abstract principles (i.e. understand and use grammatical and syntactical rules). They have gained a lot of skill and experience in learning one language. It only makes sense to exploit all of these faculties in the process of learning a second one.

Learners' Forum and Language Chat

Rocket Languages courses also include moderated Learners' Forums, which are organized around several topics. There is a "Vocabulary reservoir" and "Grammar Q&A" that serve as an extension of the material offered in the other lessons, along with a conversational section in which all posts must be written in the target language only. The Forum also plays a practical role in updating community members on company news or product updates, and includes a section devoted to customer feedback and suggestions.

Finally, Rocket Languages is developing an instant messaging function with the "Live Language Lounge." In the chat environment, peers of varying levels can pair up to practice the target language in a live conversational context. The forums and the chat function can work in tandem: learners can use the forum to make arrangements to "meet" in the "Live Language Lounge" at a certain time and with a certain agenda.

These tools utilize the Web in the true spirit of "2.0" technologies - creating social connectivity rather than simply propagating content. Through these networking tools, learners are not only able to participate in a community that shares the same language learning goals, but they are also able to observe a transfer of their language skills in genuine real-world communications.

In Conclusion

All of the tools and materials available in the course package are integrated online into a single customized Learning Management System for Rocket Languages. This system gives learners a single entry point to a wealth of varied resources and affords them not only all of the benefits of being part of cohesive learning community but all the tools to pursue their learning in their own time and on their own terms.

Rocket Languages has taken a proactive approach toward understanding the needs of learners in today's digital culture and aims to offer an intelligent choice in the field of online and media-rich language learning tools. All in all, Rocket Languages is invested in creating an environment where language learning is:

- **CONTEXTUALIZED** - with all of the material tied to situational dialogues that govern the overall delivery of course material;
- **PARTICIPATORY** - by incorporating active learning strategies and staging immersive conversations with native speakers;
- **FLEXIBLE** - through multiple learning resources and learning paths;
- **MOTIVATIONAL** - with realistic, relevant, and up to date material, with peer-driven learning environments, and with dynamic technologies that make the learning experience more enjoyable...

Indeed, it is always a challenge to "engineer" enjoyment into any process, but it remains a design objective that Rocket Languages embraces to the fullest extent nonetheless.

About Rocket Languages

Rocket Languages is a leader in downloadable language-learning products. Formed in 2004, Rocket Languages now offers courses in Spanish, French, Italian, German, Chinese (Mandarin), Japanese, and American Sign Language. By placing a strong and immediate emphasis on conversational learning, our dynamic learning courses have you speaking the language in realistic and contemporary contexts right from the start. The Rocket Languages learning community now includes over 180,000 active members in more than 90 countries, and we average over 10,000 unique visits to our websites each day.

Our product packages are comprehensive language courses in themselves: they include Interactive Audio Lessons, Software-based Learning Games for vocabulary, verbs, and pronunciation, and a range of fully illustrated Grammar & Culture Lessons with embedded audio.

We use the digital medium to make learning more convenient, participatory, and enjoyable. All of our Audio Lessons are available in MP3 format, and our online Learners Forums are effectively open for business 24 hours a day.

To find out more about learning a language with Rocket Languages contact us at:

http://www.rocketlanguages.com/contact.php

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