



MANGO

Mango Languages and Our Approach to Second Language Acquisition

Mango Classroom Edition

Authored by

Anja Green
Director of Language Learning
Mango Languages





Mango Languages' approach to Second Language Acquisition

Mango Languages has spent the last 12 years refining a language learning system that leverages the power of modern technology and infuses it with time honored principles derived from Second Language Acquisition (SLA) research. This has earned us the distinction of a 4.8 out of 5 star rating with over 10,000 reviews. Our proven methods are recognized by users around the world, including those in the language teaching community.

"As a foreign language teacher this app is the best of its kind in order to understand grammar, practice speaking and listening."

Mango Languages User

The main goal of using Mango is to help learners build effective communicative proficiency in speaking, listening, reading, writing, and culture. Traditionally, language teachers aim to develop “the four skills” of language learning. At Mango, however, we refer to them as “the five skills” because we believe that cultural awareness and literacy is just as important for second language (L2) acquisition and communication (Nguyen, 2017). Furthermore, our accompanying course and classroom guides are designed to best assist language teachers in helping their students build proficiency in the five skills by focusing on the Five Cs of Language Learning: Communication, Cultures, Connections, Comparisons, Communities (The National Standards Collaborative Board, 2015).¹

It is widely accepted that communication is a key requirement for the effective acquisition of modern spoken languages² (Krashen, 1982). Rooted in this idea is the communicative approach to L2 learning, or Communicative Language Teaching (CLT). The Mango Conversations product applies this approach by beginning each chapter with an authentic conversation in the target

¹ Available from the American Council on the Teaching of Foreign Languages (ACTFL) at <https://www.actfl.org/publications/all/world-readiness-standards-learning-languages>. ACTFL has not, in any way endorsed, sponsored, or otherwise agreed to partner or be associated with Mango Languages, and no such partnership or association is intended or implied

² Mango Languages also teaches languages such as Latin and Ancient Greek through timeless literature and classical texts, thus teaching not only the language but also providing learners with an understanding of history and wisdom found in these famous works.



MANGO

language (L2). After completing each chapter, students will have learned the vocabulary (along with proper pronunciation) and grammar required to confidently communicate within the domain of the chapter's theme. Each chapter concludes with a conversation, listening passage, and reading passage to further reinforce the content from the current and previous chapters and provide students with the opportunity to practice the L2 through multiple communication modalities.

Underlying the language acquisition efficacy of communication is the power of comprehensible input as laid out by Krashen's (1982) Input Hypothesis. It states that the most effective and efficient way for students to acquire a new language is to read and listen to L2 content that is just slightly beyond their current level of competence. Krashen refers to this as $i+1$, meaning that the learner's current level is i , and $i+1$ is the next step along the continuum of growth. According to the Input Hypothesis, when students learn new material, it is essential that it is completely comprehensible and that they are constantly challenged ($i+1$). They must be challenged enough to constantly grow their L2 linguistic faculties, but only a small amount at a time. Mango follows the tenets of the Input Hypothesis by first providing learners with elemental components of language and then building them up into larger phrases and sentences, often prompting learners to make connections on their own in order to build up their ability in the language. These connections are achieved through **Critical Thinking** activities, which prompt the student to construct and produce new and original L2 thoughts and speech. By way of the Critical Thinking activities, Mango guides learners from their current level of knowledge (i) to the next level ($i + 1$). In the process, students build not only their L2 proficiency, but also their confidence, which is a prerequisite for effective L2 acquisition (Krashen, 1982).

In addition to specifying the complexity of input necessary for L2 learning, Krashen (1982) also hypothesized that the *amount* of input is crucial for learning. He suggested that learners need a substantial amount of high-quality input to achieve L2 fluency, but in reality, even the most comprehensive language curricula cannot provide sufficient input; learners need to interact with speakers of the language they are learning. It is therefore crucial that students be given the tools to *ask* for more input in authentic settings. For this reason, Mango's curriculum dedicates portions of several chapters to teaching students to negotiate for meaning by making requests for input, clarification, and modification through a large variety of phrases, empowering them to continue to build upon their language skills outside of the program or classroom setting (Long, 1996).

While understanding input is undoubtedly important, language learners should of course aim to be able to *speak* the language as well. These skills don't always go hand in hand — studies have



MANGO

shown that language learners can often achieve high levels of comprehension in the L2 without ever achieving a moderate level of production (Swain, 1985, 1995). Swain's (1985) Output Hypothesis argues that without expectations of relevant production (i.e., output), students' conversational abilities in the L2 can lag far behind their comprehension abilities. Mango encourages production by using a strategic series of activities that prompt students to speak out loud. Along with our Critical Thinking activities, Mango Languages sets expectations for the students to go beyond repeating what they have heard and to internalize the material and combine it in new ways.

Lastly, Mango subscribes to Krashen's (1982) Affective Filter Hypothesis, which involves learners' attitudes and emotions in the language learning process. The affective filter essentially determines how receptive a learner will be to target language input. If a learner's affective filter is high, perhaps because they are nervous about making mistakes or find language learning boring, it blocks comprehensible input from reaching the learner and therefore hinders acquisition. With Mango, learners get clearly comprehensible input and are encouraged to think and speak in the L2 in a safe, low-stakes environment: they can study where, when, and how often they like. This results in a lower affective filter and therefore optimal L2 acquisition.

Mango's teaching methods broken down

There are countless methods of language teaching, many of which fall somewhere on the continuum between explicit instruction, where learners are provided with rules or metalinguistic feedback, and implicit instruction, where learners are expected to induce much about language on their own (Norris & Ortega, 2000; Spada & Tomita, 2010). Explanations provided in the learners' first language (L1) as well as L1-L2 translations would be considered very explicit teaching methods, whereas the utilization of pictures and diagrams to convey meaning falls more within the range of implicit teaching methods. Mango leverages the power of both methods to varying extents.

There are benefits and drawbacks to different types of instruction, but in the long run, both may be equally effective. For example, in a longitudinal study on language learning in the brain, learners in a more implicit training environment took longer to reach low proficiency than learners in a more explicit training environment, but both groups eventually reached high proficiency (Morgan-Short, Steinhauer, Sanz, & Ullman, 2012). At that point, the brains of the implicitly-taught learners processed their L2 like native speakers, whereas the brains of the explicitly-taught learners did not. Interestingly, when they were tested again several months later, both groups



MANGO

maintained similar levels of performance *and* the brains of both groups processed the L2 more like native speakers, suggesting that outcomes for different types of instruction are similar, given enough time (Morgan-Short, Finger, Grey, & Ullman, 2012).

In spite of these similarities, there are clear advantages of explicit instruction, which is often shown to be more effective than implicit methods (Norris & Ortega, 2000; Spada & Tomita, 2010). These advantages are likely due, at least in part, to how direct and clear explicit instruction can be. In order to teach vocabulary in a way that is “quick, simple, and easily understood” (Nation, 2001, p. 86), Mango Languages uses the explicit method of translation in paired L1-L2 courses. According to Nation (2001), “translation is one of a number of means of conveying meaning, and in general is no better or worse than the use of pictures” (p. 351).

In fact, more implicit instruction that is based heavily on imagery and object representations has a high potential for misinterpretation of the discrete vocabulary item the image is aiming to teach. As learners build on their language skills, the linguistic information provided becomes more complex, which makes it even more likely that learners will misinterpret it if the basis of teaching is formed only by visuals. Imagine, for example, a picture of a couple hugging. Even with context, it may be difficult for a learner to determine whether it aims to convey the abstract concept of “love” as a noun, “hug” as a verb, the progressive tense in “They are hugging,” or something else entirely. In fact, our internal analysis of language programs using this approach and review of how they are perceived by their users confirms that learners are deeply dissatisfied with often not understanding what the images intend to convey.

Unlike pictures, translations are not limited to concrete nouns, adjectives, and verbs, and can therefore convey meaning and allow learners to check their comprehension much more broadly and effectively (Nation, 1978). While even translations cannot always convey one-to-one equivalency between all source and target concepts, they depict the desired meaning much more accurately than the more implicit visual approach.

By strategically using the learner’s native language (L1), Mango helps learners understand their L2 on a deeper level. Through the use of “Literal Translations,” we are able to highlight instances where phrases use different words and structures than the learner might expect from the given meaning. For example, the Spanish “¿Cómo te llamas?” literally means “How do you call yourself?” but is used to say “What is your name?” Many learners like the clarity that this type of instruction provides as it helps them to break down the structure and usage of words within a language and makes the input more clear. Explicit instruction with plenty of quality input, such as



MANGO

Mango's carefully crafted translations, leads to solid language acquisition outcomes relatively quickly (Norris & Ortega, 2000; Spada & Tomita, 2010).

While explicit instruction is more efficient than implicit instruction (Norris & Ortega, 2000; Spada & Tomita, 2010), both play a role in L2 learning (Hulstijn, 2005). Implicit knowledge is especially important for automatic, fluent language use (Hulstijn, 2005, 2007). Therefore, while Mango teaches vocabulary explicitly, our approach to teaching grammar is much more implicit. We employ inductive learning to convey grammar concepts so that students are guided to discover structural principles through the logic in our courses rather than being pointed to grammar tables or drills. This method, which we call "Intuitive Language Construction," not only deepens students' understanding of the content but also builds their inference skills and helps them develop a sense of achievement. Additionally, we utilize something we call "Educational Traps" to highlight difficult or unusual concepts in the language. We challenge students to respond to Critical Thinking activities for which they have most of the knowledge, which leads them to believe that they can formulate a correct response. When the correct response is revealed, they will discover that they were missing a small piece of understanding of how the L2 functions. However, to make sure that students understand the difficult grammar concepts introduced in Educational Traps, we follow these up with short and simple explicit grammar notes to make a grammar point more salient and concisely explain why the language behaves differently than expected in that instance. While encouraging errors may seem counter-intuitive, research shows that learners directly benefit from making mistakes and receiving explicit corrective feedback (Keith & Frese, 2008; Metcalfe, 2017). Mango's Educational Traps are therefore a way to deepen the learner's understanding of the structure of the language without the need for drills or grammar tables.

While we do not teach vocabulary through images in our Mango Conversations courses, we understand the important role that images can play in reinforcing what has been learned. Mango Languages is therefore developing additional materials to provide educators with decks of supplemental imagery and photographs that correspond to the language content in the Mango course. We encourage educators to supplement their classroom instruction with our supplemental pictures and any other materials that they deem appropriate for their students' needs. This could promote what Paivio and Desroches (1981) call *dual encoding*, in which the meaning of a word is stored in the brain both linguistically and visually. It is important to note that if the student does not understand the linguistic information conveyed by the picture, then dual encoding cannot and will not occur. The linguistic information must be comprehensible, and translation is the fastest and most efficient method to accomplish that, as we have previously



discussed. Providing students with diversified, rich, high-quality input in a collaboration between expert educators and science-based Computer-Assisted Language Learning (CALL) programs sets them up to become strong and effective communicators.

Personalized Review System

Establishing an effective schedule for reviewing learned material can be a challenge when trying to learn a new language. Our personalized Review System assists learners by prompting them to recall vocabulary and phrases that they have been exposed to in Mango Conversations. Spaced repetition systems that present learned material repeatedly and at specific intervals over time help the learner better retain this knowledge (Kang, 2016). Research has shown that certain memorization activities are more successful in reducing the rate of forgetting than others. Recall activities like the ones presented through Mango's spaced repetition algorithm, where learners are prompted to recall answers in either the L1 or L2 in their minds, are very beneficial to memorization. They have been proven to be more beneficial for memory recall than retention activities, where the learner sees the same material again in both the L1 and L2 at the same time (Carpenter, Pashler, Wixted, & Vul, 2008).

By inserting these review activities at specific intervals in between new learning opportunities, Mango's Review system helps students combat the dreaded forgetting curve (Murre & Dros, 2015).

Benefits of the paired approach

Pairing of source and target languages allows us to explore areas of learning and layers of complexity that would be difficult to convey in a course that is delivered in the language to be learned. Two important areas are **cultural competence** and **metalinguistic awareness**.

Cultural competence is the understanding of cultural diversity that allows an individual to recognize, accept, and manage differences between people in interactions (Barraja-Rohan, 1999). It is widely accepted that cultural competence is an integral part of L2 learning (for a recent review, see Nguyen, 2017). According to Nguyen (2017), language learners can achieve three levels of learning culture: cultural knowledge, cultural awareness, and cultural competence. These range from a superficial understanding of facts about other cultures to a deep and reflective cultural understanding.



MANGO

At Mango, our course developers are native speakers of our target languages and have first-hand experience with the students' native culture, which establishes a shared knowledge base between student and teacher. Because Mango's cultural notes are in the students' native language (L1), we are able to provide interesting, detailed, and nuanced cultural information that touches on all three levels of learning culture, and that is of particular interest to learners from a given language background. Cultural information provided in this way encourages learners to compare and contrast aspects of different cultures (namely, their native culture and the culture of the language they are learning), which has been shown to improve intercultural abilities (Gómez Rodríguez, 2013). An unpaired course (a generic course without any L1 present), on the other hand, cannot provide such specific, nuanced cultural information, and is also limited by how much its learners can understand in the L2. Thus, while unpaired courses leave learners stranded at the superficial level of cultural knowledge, Mango's courses bring learners to the level of cultural competence.

Culture Note

Germans are ethnically diverse and have last names from many different cultures. Many Germans have last names that date back to the German Medieval period, when people began to add last names to first names. Names may have been based on an individual's looks (the name **Kraus**, for example, means "curly"), on professions (such as **Richter** which means "judge"), on property ownership (**Hoffmann**, for example, is a name for someone who rented farmland), or even on character traits (such as **Fuchs**, which means "fox," referring to a very sly person).



Cultural Knowledge

*Figure 1. A culture note representing information contributing to a learner's **cultural knowledge**, the first level of learning culture (Nguyen, 2017).*



Culture Note

You have already learned about formal and informal address. You should probably address adults formally, unless you have known them for a while and they make it clear that using **du** is appropriate. Children, on the other hand, are never addressed with **Sie**. With a child, you should use **du** at all times, and asking **Na, wer bist du denn?** is a friendly way of asking a child for their name.



Cultural Awareness

Figure 2. A culture note representing information contributing to a learner's **cultural awareness**, the second level of learning culture (Nguyen, 2017).

Culture Note

To some extent, the myth about German punctuality really is true. Germans love to be on time! While the younger generations have eased up a bit, punctuality is still generally appreciated and encouraged everywhere. If you agreed to pick up an acquaintance or meet a friend in town at a specific time, it is absolutely unacceptable to show up an hour or even more past that time. A delay of up to 15 minutes is usually forgiven, though if you are going to be later than that (even for personal and social engagements), you should contact the person waiting for you and let them know of your delay. In a work setting, punctuality is even more important. For example, if a meeting is scheduled to start at 10 a.m., you should get settled in the meeting room no later than 5 minutes before the starting time.



Cultural Competence

Figure 3. A culture note representing information contributing to a learner's **cultural competence**, the third level of learning culture (Nguyen, 2017).



MANGO

Mango's paired approach is also designed to build **metalinguistic awareness** faster than an L2-only approach. This increased conscious awareness of the formal structure of language as a system provides the learner with additional advantages over learners who informally acquire the language (in a manner that doesn't draw attention to metalinguistic aspects, like an L2-only course may).

Competence in two or more languages generally leads to higher levels of metalinguistic awareness (Adesope, Lavin, Thompson, & Ungerleider, 2010). However, this skillset is acquired faster and more effortlessly when attention is drawn to form (e.g., spelling, grammar, pronunciation) and differences between the two languages (Schmidt & Frota, 1986), as in Mango's courses. The foundation for metalinguistic awareness is generally built in the learner's first language in early childhood, particularly as they are learning to read in lower elementary school grades (Koda, 2005). However, sometimes children do not get a good foundation for various reasons (e.g., lack of educational resources, limited exposure to multi-faceted vocabulary, low motivation to read, etc.). When students without this solid foundation begin to learn another language, an L2-only approach often puts them at a disadvantage because it does not draw attention to how form and function of the L2 correlate with their L1. They lack sufficient metalinguistic skills to identify this on their own in their native language, let alone in an L2. Mango aims to overcome this unfortunately very common gap by helping the learner reflect on the nature of language and drawing the metalinguistic correlation between the learner's L1 and L2 in a tangible and easy-to-interact-with manner (for a review, see Horst, White, & Bell, 2010).

Mango specifically targets metalinguistic awareness through multiple features.

The semantic color mapping (see Figure 4) between source and target language is one of the features that builds different facets of metalinguistic awareness. It builds semantic language skills by showing the relations between words in L1 and L2. In doing so, learners notice ambiguities, or even the absence of correlations, and learn to understand and appropriately use words, phrases, or longer units with the correct meaning. Semantic color mapping also helps develop syntactic (word order) knowledge because repeatedly presenting the student with word or phrase correlation builds an understanding of the rules that govern syntax.

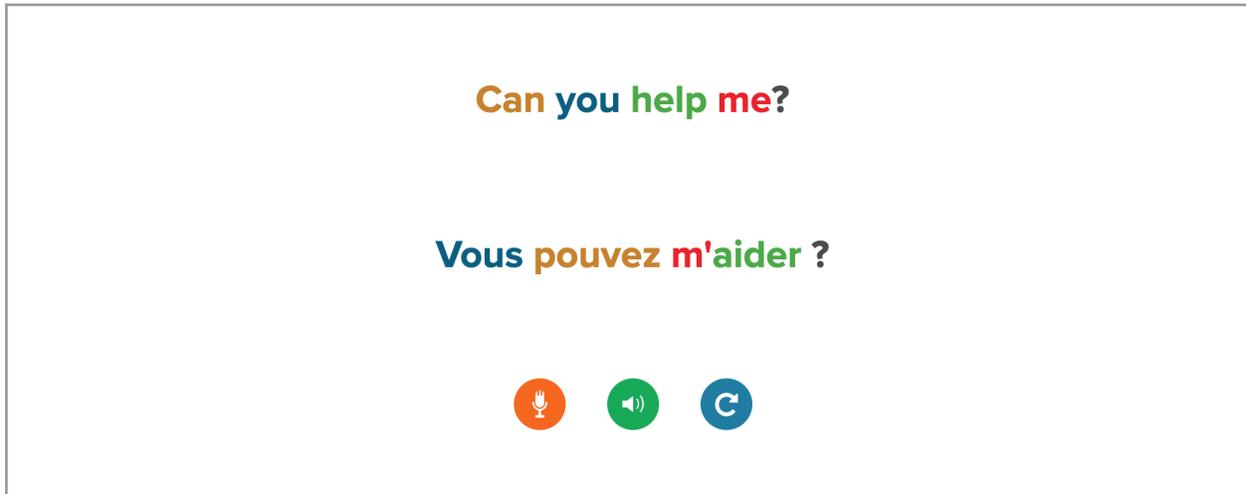


Figure 4. Semantic color mapping, showing how words in the learner's L1 English correspond to words in the learner's L2 French. In this example, the learner sees that French word order for this question is "You can me help?" which highlights the syntactic differences between the languages.

Furthermore, students grow their syntactic awareness as they learn to consciously understand and manipulate word order by seeing the correlations between the two languages. This is also reinforced by grammar notes that are specifically targeted at native speakers of the language the course is for (e.g., native English speakers that take the Spanish course being specifically pointed to the syntactic differences between their Spanish and English).

Pronunciation Training with Mango

Pronunciation training is a key part of successful language learning. With CALL on the rise, educators often look to technology to provide this much-needed training. Many language learning programs are seeking to address this through intelligent solutions, like feedback based on speech recognition. However, despite rapid advances, the technology is still quite flawed. Erroneous scoring is a widespread problem in systems that use speech recognition. For the student, this type of inconsistent and unreliable feedback impedes the desired pronunciation improvements and also often leads to frustrating experiences. Both of these outcomes are ultimately detrimental to motivation and confidence, which, as described earlier, could heighten a learner's affective filter and actually prevent the brain from using input for language acquisition (Krashen, 1982). With accurate error diagnosis still significantly lacking in today's speech

recognition technology, students may be better off training their ears and tongue with alternative methods in a low-anxiety environment.

Mango Languages provides such a method in the form of our **Voice Comparison** feature. It helps learners hone their pronunciation alongside native-speaker audio, building confidence in their ability to speak another language. Learners can align a visual representation of their recording with the native speaker's version for comparison (see Figure 5), practicing repeatedly until it lines up smoothly. This ability to repeat the Voice Comparison recording/listening loop until satisfied not only trains the learner's ear and tongue but also allows them to gain confidence in their pronunciation, lowering their affective filter.

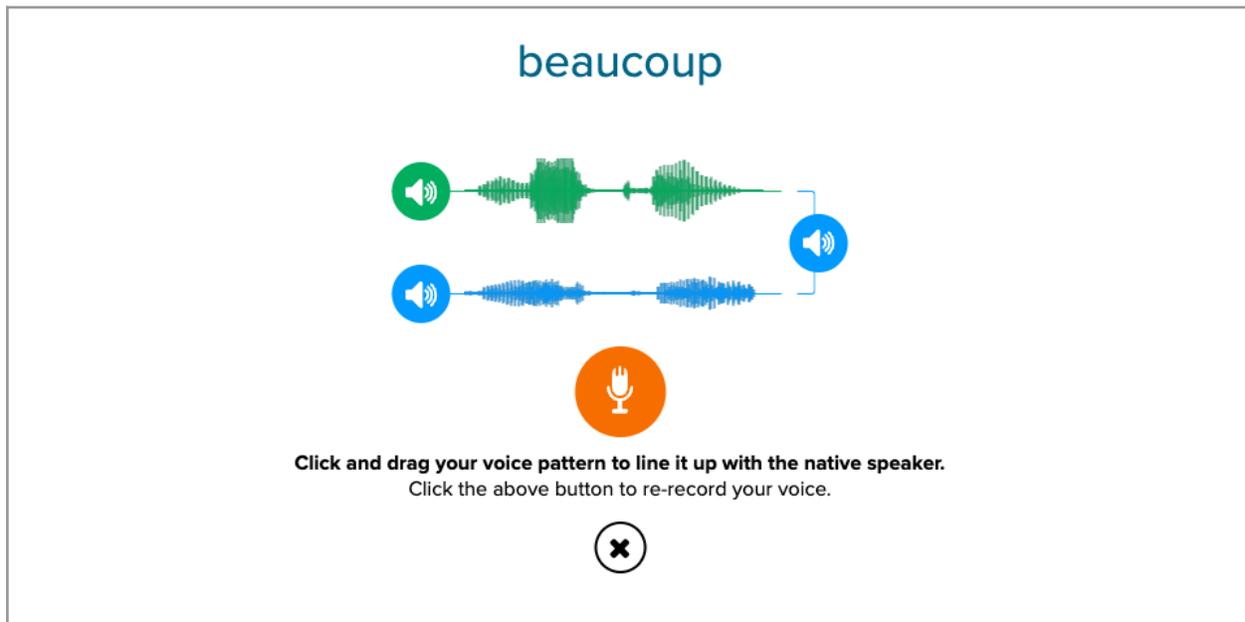


Figure 5. Waveforms of native-speaker (green) and learner (blue) pronunciations of the word “beaucoup” (“a lot”) from Mango’s French course.

The Voice Comparison feature allows the user to do several things that are designed to promote L2 learning. First, in viewing the waveform and how it aligns with native speaker pronunciation, the learner can essentially see what native speaker pronunciation looks like. This is important because spoken language consists of a fleeting signal, so learners do not have time to focus on and analyze it. It is very difficult for L2 learners to learn to perceive and produce new sounds, and particularly to process how those sounds are different from their native language sounds (Flege, 2002). The waveform acts as a more permanent visual representation that a learner can spend



time studying. While learners may have a hard time hearing the difference between their own pronunciation and that of a native speaker, the waveform allows them to see the difference as well, thus augmenting the audio representation. In this way, learners are able to “notice the gap” (Schmidt & Frota, 1986) between their own pronunciation and that of the native speaker. Such training has been shown to improve both perception and production of L2 sounds (Motohashi-Saigo & Hardison, 2009), even more so than traditional pronunciation feedback from an instructor (Olson, 2014). This tool can be a powerful addition to today’s classrooms, enhancing the work of the instructor with individualized pronunciation practice that most group learning environments cannot normally accommodate.

In addition, Mango provides **phonetic transcriptions** of each target language word and phrase (see Figure 6). These are specifically written so that the learner can understand the target language pronunciation from the perspective of their first language.³



Figure 6. Phonetic transcriptions appear in bubbles at the word level (left, red) and phrase level (right, green) on all learning slides.

Mango’s phonetics system also builds learners’ metalinguistic awareness in various ways, thus further teaching them skills that play an important role in pronunciation practice.

³ Note that while the International Phonetic Alphabet (IPA) is a powerful tool and there are some compelling reasons to use this standard for phonetic transcriptions, we have found that many learners are not sufficiently versed in decoding it for it to be helpful in their pronunciation practice.



MANGO

When students are given the tools to understand and appreciate how language is divided into its components (how syllables make up a word, how words are arranged to form a sentence, which words rhyme, etc.), they build phonological awareness (Pullen & Justice, 2003). Learners who demonstrate high levels of phonological awareness also tend to be better readers (Swanson, Trainin, Necochea, & Hammill, 2003).

Through Mango's system, learners are also able to identify and manipulate the smallest units of sound, thus building the above mentioned phonological awareness. Mango's courses, in particular the way we develop our phonetics with the native language in mind, demonstrate our awareness of the linguistic characteristics of the student's native language, including which phonemes exist and don't exist (German learners of English, for example, need to be introduced to the English "th" sound in a form they understand because it does not exist in German). Mango's phonetics help students identify distinct sounds in a word, how sounds blend together, which English phonemes may not exist in the student's native language, and more.

Metalinguistic awareness is also built by Mango's **articulated speech feature**, which offers a clearly enunciated version of each word in addition to the phrase spoken at a conversational pace. This not only allows students to dissect all of the sounds they hear in the word but also to pick up on the differences in pronunciation of words spoken individually versus in a string of words, thus building phonological awareness even further (National Institute of Child Health and Human Development, 2000).

These features all contribute to a powerful pronunciation training experience that allows students to experiment with the language and gain confidence in a low-anxiety environment.

Developing L1 Literacy during L2 Acquisition

Mango Conversations has various aids and audio support built in throughout the course, narrating not only the instructions but also the concepts to be learned in the student's first language. Because of supportive features such as Mango's semantic color mapping, articulated speech feature, and phonetic transcriptions of words and phrases, our system can even help learners who have not yet achieved literacy in their native tongue. As shown earlier, these features help learners develop orthographic and phonological awareness as well as metalinguistic knowledge, which are necessary for literacy development (National Institute of Child Health and Human Development, 2000; Velluntino, 2005). Students can therefore even begin to achieve literacy in their L1 as they learn their L2 through Mango's courses.



Classroom Guides

CALL is most successfully implemented in the classroom when teachers play an active role in designing and monitoring student interactions with language software and with one another, guiding them, and facilitating instruction based on well-designed CALL lesson plans (Son, 2002). Mango Languages helps educators bridge the gap between technology and classrooms by providing a variety of tools and guides.

Our **Course Guides** offer a detailed overview of the content taught in our courses so that educators can evaluate how our content fits into their curriculum based on learning objectives, grammar and culture information, and vocabulary domains.

Mango also offers **Classroom Guides** developed by experienced language teachers. The guides consist of chapter-based lesson plans with relevant, targeted vocabulary, grammar, and cultural activities that educators can use in face-to-face classrooms to reinforce the material from the Mango Conversations software and to stimulate conversation in class.

Classroom Guides not only supplement the content of the Mango Languages software but also build on it by providing classrooms with additional vocabulary centered around the focus of each chapter. This allows students to apply what they learned in the software in practical and engaging ways. Through a variety of individual tasks and group activities, from conversation scenarios and writing prompts to quizzes and discussion points, students are able to deepen their knowledge of the language. It gives them an opportunity to apply the language with peers and instructors to gain confidence and develop their fluency. Our Classroom Guides allow teachers to implement the increasingly popular flipped classroom model, where the instructional content (in this case, the Mango Conversations software) is delivered outside of the classroom, and class time is then used to deepen students' understanding through discussion and customized student engagement activities.

Like our core courses, the lesson content compares favorably to internationally recognized standards such as ACTFL and CEFR⁴ proficiency levels, thus allowing educators to clearly identify

⁴ The American Council on the Teaching of Foreign Languages (ACTFL)[®] and “Common European Framework of Reference for Languages(CEFR)[®]” are the property and/or marks of their respective owners and have no official association with Mango Languages or any of its subsidiaries or affiliates. Neither ACTFL nor CEFR have in any way endorsed, sponsored, or otherwise agreed to partner or be associated with Mango Languages, and no such partnership or association is intended or implied.



learners' skill levels and track their achievements as they pass through the Mango learning system.

Together, Mango's software and Classroom Guides deliver a powerful package that allows students to make connections, draw comparisons between languages and cultures, and become active participants in multilingual environments within and beyond the school setting.

Conclusion

As we have shown, Mango's powerful conversation-based methodology helps learners build communicative proficiency in the four skills of speaking, listening, reading, and writing, while also teaching the critical fifth skill of culture, a key element in effective language learning.

We blend technology and established SLA principles to create a robust program that meets learners and educators where they are at. Mango Languages not only delivers comprehensive learning content, but also offers aids that build all learners' metalinguistic awareness and cultural competence equally, regardless of their educational background and skill level.

Guided by its core purpose to **enrich lives with language and culture**, Mango Languages creates practical, effective language-learning experiences that help students become the strong communicators and global citizens that our connected world needs.

In addition to Mango Conversations and Mango Classroom, Mango Languages also offers the following products:

Mango Reader, a Chrome browser extension that turns online content into a learning opportunity and helps learners acquire a language through reading authentic content by allowing them to look up translations, grammatical information, and much more for words and phrases found on any website.

Mango Movies, our patented language and culture learning system that teaches through films. Learners can immerse themselves in a new culture by exploring hours of authentic content in our most popular languages.

Mango Live, our virtual language training solution that provides both one-on-one and group instruction. Led by language experts around the world, Mango Live supports unique schedules and customized learning goals.

References

- Adesope, O. O., Lavin, T., Thompson, T., & Ungerleider, C. (2010). A Systematic Review and Meta-Analysis of the Cognitive Correlates of Bilingualism. *Review of Educational Research, 80*(2), 207–245. <https://doi.org/10.3102/0034654310368803>
- Barraja-Rohan, A.-M. (1999). Teaching conversation for intercultural competence. In J. Lo Bianco, A. J. Liddicoat, & C. Crozet (Eds.), *Striving for Third Place: Intercultural Competence through Language Education* (pp. 143–145). Melbourne: Language Australia.
- Carpenter, S. K., Pashler, H., Wixted, J. T., & Vul, E. (2008). The effects of tests on learning and forgetting. *Memory & Cognition, 36*(2), 438-448. <https://doi.org/10.3758/MC.36.2.438>
- Flege, J. (2002). Interactions between the native and second-language phonetic systems. In P. Burmeister, T. Piske, & A. Rohde (Eds.), *An integrated view of language development: Papers in honor of Henning Wode* (pp. 217–244). Trier, Germany: Wissenschaftlicher Verlag Trier.
- Gómez Rodríguez, L. F. (2013). Enhancing intercultural competence through U.S. multicultural literature in the EFL classroom. *Folios, 38*(1), 95–109.
- Horst, M., White, J., & Bell, P. (2010). First and second language knowledge in the classroom. *The International Journal of Bilingualism, 14*(3), 331-349. <https://doi.org/10.1177/1367006910367848>
- Hulstijn, J. H. (2005). Theoretical and empirical issues in the study of implicit and explicit second-language learning: Introduction. *Studies in Second Language Acquisition, 27*(2), 129–140. <https://doi.org/10.1017/S0272263105050084>
- Hulstijn, J. H. (2007). Psycholinguistic perspectives on language and its acquisition. In J. Cummins & C. Davison (Eds.), *International Handbook of English Language Teaching* (pp. 783–795). New York: Springer.
- Kang, S. H. K. (2016). Spaced repetition promotes efficient and effective learning: Policy implications for instruction. *Policy Insights from the Behavioral and Brain Sciences, 3*(1), 12-19. <https://doi.org/10.1177/2372732215624708>
- Keith, N., & Frese, M. (2008). Effectiveness of error management training: A meta-analysis. *Journal of Applied Psychology, 93*(1), 59-69. <http://dx.doi.org/10.1037/0021-9010.93.1.59>
- Koda, K. (2005). Learning to read across writing systems: Transfer, metalinguistic awareness, and second-language reading development. In V. Cook & B. Bassetti (Eds.), *Second Language Writing Systems* (pp. 311–334). New York: Multilingual Matters.
- Krashen, S. D. (1982). *Principles and practice in second language acquisition* (1st ed). Oxford ; New York: Pergamon.
- Long, M. H. (1996). The role of the linguistic environment in second language acquisition. In W. C. Ritchie and T. K. Bhatia (eds): *Handbook of Second Language Acquisition*. New York: Academic Press, pp. 413–68.
-



MANGO

- Metcalfe, J. (2017). Learning from errors. *Annual Review of Psychology*, 68, 465-489.
<https://doi.org/10.1146/annurev-psych-010416-044022>
- Morgan-Short, K., Finger, I., Grey, S., & Ullman, M. T. (2012). Second language processing shows increased native-like neural responses after months of no exposure. *PloS One*, 7(3), e32974. <https://doi.org/10.1371/journal.pone.0032974>
- Morgan-Short, K., Steinhauer, K., Sanz, C., & Ullman, M. T. (2012). Explicit and Implicit Second Language Training Differentially Affect the Achievement of Native-like Brain Activation Patterns. *Journal of Cognitive Neuroscience*, 24(4), 933–947.
https://doi.org/10.1162/jocn_a_00119
- Motohashi-Saigo, M., & Hardison, D. M. (2009). Acquisition of L2 Japanese Gemimates: Training with Waveform Displays. *Language Learning*, 13(2), 29-47. <http://dx.doi.org/10125/44179>
- Murre, J. M. J. & Dros, J. (2015). Replication and analysis of Ebbinghaus' forgetting curve. *PLOS ONE*, 10(7), e0120644. <https://doi.org/10.1371/journal.pone.0120644>
- Nation, I. S. P. (1978). Translation and the Teaching of Meaning: Some Techniques. *ELT Journal*, XXXII(3), 171–175. <https://doi.org/10.1093/elt/XXXII.3.171>
- Nation, I. S. P. (2001). *Learning vocabulary in another language*. Cambridge ; New York: Cambridge University Press.
- National Institute of Child Health and Human Development. (2000). *Report of the National Reading Panel. Teaching children to read: An evidence-based assessment of the scientific research on reading and its implications for reading instruction*. (NIH Publication No. 00-4754). Washington, DC: U.S. Government Printing Office.
- Nguyen, T. T. T. (2017). Integrating Culture into Language Teaching and Learning: Learner Outcomes. *The Reading Matrix: An International Online Journal*, 17(1), 145–155.
- Norris, J. M., & Ortega, L. (2000). Effectiveness of L2 Instruction: A Research Synthesis and Quantitative Meta-analysis. *Language Learning*, 50(3), 417–528.
<https://doi.org/10.1111/0023-8333.00136>
- Olson, D. J. (2014). Benefits of Visual Feedback on Segmental Production in the L2 Classroom. *Language Learning & Technology*, 18(3), 173–192.
- Paivio, A., & Desrochers, A. (1981). Mnemonic techniques in second-language learning. *Journal of Educational Psychology*, 73(6), 780–795. <https://doi.org/10.1037/0022-0663.73.6.780>
- Pullen, P. C., & Justice, L. M. (2003). Enhancing Phonological Awareness, Print Awareness, and Oral Language Skills in Preschool Children. *Intervention in School and Clinic*, 39(2), 87–98. <https://doi.org/10.1177/10534512030390020401>
- Schmidt, R., & Frota, S. (1986). Developing basic conversational ability in a second language. A case study of an adult learner of Portuguese. In R. Day (Ed.), *Talking to learn: Conversation in second language acquisition* (pp. 237–326). Rowley, MA: Newbury House.
- Son, J-B. (2002). Computers, learners and teachers: Teamwork in the CALL classroom. *English Language Teaching*, 14(2), 239-252.
- Spada, N., & Tomita, Y. (2010). Interactions Between Type of Instruction and Type of Language
-



MANGO

Feature: A Meta-Analysis. *Language Learning*, 60(2), 263–308.

<https://doi.org/10.1111/j.1467-9922.2010.00562.x>

- Swain, M. (1985). Communicative competence: Some roles of comprehensible input and output in its development. In S. M. Gass & C. Madden (Eds.), *Input and Second Language Acquisition* (pp. 235–253). Rowley, MA: Newbury House.
- Swain, M. (1995). Three functions of output in second language learning. In G. Cook & B. Seidlhofer (Eds.), *Principle and Practice in Applied Linguistics* (pp. 125–144). Oxford: Oxford University Press.
- Swanson, H. L., Trainin, G., Necochea, D. M., & Hammill, D. D. (2003). Rapid Naming, Phonological Awareness, and Reading: A Meta-Analysis of the Correlation Evidence. *Review of Educational Research*, 73(4), 407–440. Retrieved from JSTOR.
- The National Standards Collaborative Board. (2015). *World-Readiness Standards for Learning Languages*. 4th ed. Alexandria, VA: Author.
- Vellutino, F. R. (2005). Literacy: Reading (early stages). In L. Nadel, *Encyclopedia of cognitive science*. Hoboken, NJ: Wiley. Retrieved from https://proxy.library.georgetown.edu/login?url=https://search.credoreference.com/content/entry/wileycs/literacy_reading_early_stages/0?institutionId=702



MANGO



Anja Green is the Director of Language Learning at Mango Languages, with an M.A. in Applied Linguistics/Translation from Leipzig University in Germany. With 15 years under her belt as a linguist expert, the last ten have been spent with Mango Languages, where she leads teams of linguists and subject matter experts in the creation of learning content, development of new tools and features, and administration of new and innovative language instruction modules.

Email: anja.green@mangolanguages.com

Phone: 248.254.7450 Ext. 807

Guided by its core purpose to enrich lives with language and culture, Mango Languages creates practical, effective language-learning experiences for thousands of libraries, schools, corporations, government agencies, and individuals across the globe.

[Facebook](#) | [Twitter](#) | [Instagram](#) | [YouTube](#)