

*Review Article*

## **Modalities for Successful Language Learning and Teaching in the Digital Age: A Critical Review of Language Learning Software and Applications**

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### **Abstract**

*One of the main factors influencing the effective learning of a second or a foreign language among students is the language learning style and strategy followed by them (Oxford, 2003). However, in recent years', the advent of information and communication technology has essentially changed the way people communicate and the way languages are learned, thereby also affecting our students (NCERT, 2005). This is specifically true in the case of the wide range of a second or a foreign language learning applications and software programs that are available online or in the downloadable format offering multiple ways for learning a language. Therefore, in order to ensure quality upgradation in language learning and the development of a multilingual society, the traditional way of teaching and learning language might not be enough. However, before mindlessly adopting these new technologies for learning a language, it is important for educators to critically assess their utility. The current paper aims to identify the five most used language learning software or applications through various online and offline ratings, user base and review boards. The paper also aims to critically examine and present a comparative review of these language learning tools basis the number of languages offered; learning strategies applied, styles and skills in focus; users' reviews; and the cost of their premium packages. A 'language learning skills and strategies' checklist was developed to collect data. The data so collected was thematically organized and analysed in the light of contemporary theories of language teaching and learning. Finally, the paper concludes with the modalities required for efficient and effective teaching and learning of language in this digital age. The current paper also encourages teachers, teacher educators, parents, and students to experiment in teaching and learning of a second or a foreign language with these softwares and applications.*

**Keywords:** applications, digital age, language learning, language skills, multilingual society, educational technology

### **Introduction**

In response to the challenges posed by the 21st century, education struggles to re-shape itself with the help of technology, thereby fundamentally changing the way we teach and learn. Learners, today, are increasingly motivated by their personal needs and situations such as the need of greater mobility from one place to another, and hence find themselves in a position to engage themselves in educational activities on-the-go, that is spontaneous and sometimes also have 'life-long learning' as an ambitious goal. This leads to the use of a variety of technologies by these learners, both inside and outside classrooms. At their very first appearances, many new media technologies; such as dictionaries, grammar books, audiotapes, television programs, DVDs and CD-ROMs, the internet and mobile technologies;

seem to have great potential for assisting in language learning (Sharples, 2000). Some of these technologies, commendably fulfilled their promises while others failed to do so (Salaberry, 2001). Many linguists and language experts attribute several reasons for the failure of language-learning technology. Some of the reasons can be the inappropriate or insufficient use of technology, questionable pedagogy that is sometimes a step backward than being a step forward (Warschauer & Healey, 1998). Also, there is often little attention paid to the behaviours and attitudes of language learners with regard to the technology that they are using (Pemberton et al, 2005). Foreign language learning, as well as second language learning, are arguably well suited for learning through technology and also with life-long learning. Language learning, in itself, is an everyday learning activity that is integrated with individual's lives and as this activity changes, one can also see the transformation in how languages are learned and also what challenges these changed ways presents.

This paper presents a comparative analysis of software and mobile applications available for language learning in terms of their popularity, the number of languages offered, cost-of-premium packages, design functions and the strategies and styles of language learning in-focus for a learner-centred approach for language learning. With such a comparative analysis, the paper presents various modalities for effective and efficient teaching and learning of language in the digital age to the readers.

### **Theories of language learning**

While reviewing different theories of adult language learning, Mitchell and Myles (1998) point out that the researchers haven't yet arrived at a comprehensive and unified view of second language learning among adults. Language learning in itself isn't a unified activity. It has been conceptualized as an amalgamation of different activities of listening, speaking, reading and writing and at times also comprehension. Various theoretical orientations for second language learning exists today, however, as per the scope of this study, this section only discusses the constructivist view and the creative constructionist approach.

The constructivist approach towards language learning asserts that learning of language is a socially interactive, creative and active process wherein learners construct new ideas on their own, on the basis of their current and previous knowledge (Bruner, 1990). This philosophy or orientation of language learning is indeed the force behind many interactive, computer-assisted language learning initiatives. This orientation is also often seen as to be closely knit with a communicative teaching approach.

Learners construct their knowledge through negotiating the meaning of their dialogues and socio-cultural expressions in the target language. This implies that it is only through the learners' exposure to and interaction with the target language and its contexts that successful language learning can occur. According to Pemberton et al (2005), in a constructivist-inspired program for language learning, learners are required to solve problems, perform different tasks involving different skills, thereby ensuring high levels of interaction in terms of listening, speaking, reading and writing in the target language.

The second orientation is that of the Creative Constructionist approach. This approach is mainly associated with the works of Krashen (1981). According to Krashen, the learners or acquirers of language usually are not aware of their learning of a language. Rather, such

learners intuitively acquire the second language while they are engaged in the process of receiving and comprehending inputs in the second language. These inputs can be received from various sources of the same, lower or slightly higher level than that of the learner's current level of competency. Such inputs directly contribute towards the incidental or implicit acquisition, comprehension and subsequent fluency in the second language. This acquisition takes place internally through hearing and reading of that language, and the learners are not required to actively speak or write in that language because it is assumed that speech in that language would emerge as a natural consequence of repetitive hearing of samples in the language to be acquired. According to Krashen (1981, 1982) and Trueba (1987), the learner's motivation to learn a language is also an important determinant of its successful learning and therefore, it is important to ensure that the environment in which learning is occurring are highly motivating in nature and the fact that any deliberate language learning is occurring should be seamless.

### **Objectives**

The current study aims to achieve the following objectives:

- To identify the five most used language learning software or applications.
- To critically examine and present a comparative review of these language learning software and applications on the basis of the number of languages offered; learning strategies, styles, and skills in focus; users' reviews; and cost of the premium package.

### **Methodology**

In order to identify the top five language learning software or mobile applications, an in-depth review of various online and offline ratings, user base and review boards were conducted. Such sources for such review ratings included Bloomberg Pursuits (Ekstein, 2017), Western Union (Timothy, 2017), The Balance (Fisher, 2017), Digital Trends (Hill, 2017), PCMAG.com (Duffy, 2017), beebom.com (Beebom, 2017), and Lingualift (Krzeminska, n.d.). After reaching at the list of top five language learning programs, further review of each of those was undertaken. For this, a 'language learning skills and strategies' checklist was developed. In addition to the in-focus skills, the checklist also contained several program-based basic indicators such as format, till-date user base, number of languages offered, the average duration of the lesson, cost for access to the full package and other additional features offered by the program. The data so collected was thematically organized (in the form of a comparative table) and analyzed in the light of contemporary theories of language teaching and learning.

### **Results**

Many language learning programs appeared in the review boards' list of best language learning apps/software/programs. These included programs such as (in alphabetical order): 24/7 Tutor Apps, Accella Study Essential Apps, Babbel, Busuu, Clozemaster, Coffee Break, Drops, Duolingo, Fluenz, Google Translate, Hello Talk, HiNative, How To (Pronounce), Leaf, Lingua.Ly, Lingvist, Living Language, Memrise, Mindsnacks, Mondly, Mosa Lingua, Rocket languages, Rosetta Stone, Simon & Schuster Pimsleur Comprehensive, Tandem, Transparent Language Online, TripLingo, Yabla. Out of these language learning programs,

the ones that were found to be most recurring are (in an alphabetical order): Babbel, Busuu, Duolingo, Memrise, Rosetta Stone (Beebom, 2017; Duffy, 2017; Ekstein, 2017; Fisher, 2017; Hill, 2017; Krzeminska, n.d.; Timothy, 2017). An in-depth review analysis of each of the top five language learning programs will follow in the following sections. These sections are arranged not with respect to any particular hierarchy of popularity or effectiveness of a learning program, but with respect to alphabetical order. Throughout this paper, no attempt has been made to suggest that one language learning program is better than the other.

## **Babbel**

Babbel, founded in 2007, is a language learning program available both as a website and as a mobile application for both Android and IOS devices. The user base of Babbel (at the time of writing this paper and as reported by its official website) is of about one million active paying users and has an approximate growth rate of thirteen hundred new users per hour. This program offers learning courses for a total of fourteen languages including German, Spanish, Italian, French, Portuguese, Swedish, Turkish, Dutch, Polish, Indonesian, Norwegian, Danish, Russian, and English. This program uses a didactic method for teaching language which is combined with strategies from cognitivism, and constructivism. The program starts by exposing the learners to a lot of new vocabulary at once, which, at times, can be overwhelming for some learners. However, the program uses the cognitive principle/technique of 'Space Repetition' which ensures that each new vocabulary introduced to the learner is repeated several times, at different occasions/intervals thereby helping the newly acquired information to move from the short-term memory to the long-term memory of the learner. The vocabulary introduced to the learners is largely based on the real-life native conversations in the target language such as greetings of 'Hello', 'Good Morning', 'How are you?'. According to the developers of this program, such an approach can help learners to start conversing in the target language right away. Although the program focuses on listening, reading, writing and speaking skills in a language, there seems to be a skewed focus on listening and writing skills of the learner. Apart from offering flashcard style vocabulary, the program also offers quiz style course elements, pronunciation and grammar training exercises. Although the amount of lessons available for each of the languages offered varies greatly, the lessons that are designed are presented to the learners keeping in mind the context of the learner, specifically the native/instruction language of the learner, over which the learner already, assumingly, has a greater level of mastery. This means that the presentation, of course, is done keeping in mind the overlapping grammatical structures and mutual words of the native and the target language and also the mutual. However, if the language complexity is considered, this program offers courses only for the beginner's level and not much content available for upper intermediate and beyond levels of proficiency in the targeted language. Some of the additional features offered by this program include Speech recognition tool (tests learner's pronunciation), Review manager tool (keeps track of vocabulary practiced by the learner), Social media tool (helps learners to interact and connect with other learners). Babble's method of learning does not offer any real-time web classes. Critics also reveal that such a method of learning can at times be monotonous for the learners and may end up losing its effectiveness in new language learning.

## **Busuu**

Busuu, founded in 2008, is a language learning program available both as a website and as a mobile application for both Android and IOS devices. Busuu is basically a social network for learning languages that is based on a freemium business model, i.e. it has two versions, free and the premium version. The free version gives access to only flashcards and the premium version, that is paid, includes, in addition to flashcards, adaptive vocabulary trainer, grammar exercises, quizzes, podcasts, videos, other multimedia material, speaking-writing assignments, personalized feedback from other users, offline mode, travel courses, and McGraw-Hill certification. This program offers learning courses for a total of twelve languages including Arabic, Chinese, English, French, German, Italian, Japanese, Polish, Portuguese, Russian, Spanish, and Turkish. Busuu provides tools such as chat-window that enables different learners to network amongst each other. This platform also encourages collaborative learning with a growing community of native speakers. One feature of this program is that the users can act as both learners (of a target language) and tutors (of their own mother tongue) and hence correct each other's work. Busuu courses are offered at different levels of proficiency, i.e., A1, A2, B1, and B2, which indeed are based on the Common European Framework of References for Languages (CEFR) standards. At the very beginning, this program also offers to take up a base-line proficiency test called as the 'placement test' for those learners who already have some level of proficiency in the target language and thus the program suggests level appropriate courses to the learner. These courses focus upon the four main skills of language learning (i.e. reading, writing, speaking and listening). The course contents are well organized on the dashboard allowing the users to see exactly where they are and choose to either move sequentially from one level of proficiency to another or pick up courses/topics that best suit their needs or continue practicing the tasks/courses they have already completed. The courses are designed as such that each new learning builds upon the learner's previous knowledge, thereby allowing easy scaffolding rather than exposing learners to random, disconnected, and decontextualized content such as vocabulary flash cards or grammar lessons. Each lesson is designed around a communicative focus (such as greeting someone, introducing oneself, ordering food at a restaurant) so that the learners can apply their learning immediately in writing or conversation. Once the learners have completed one set of tasks/course, they can also take fill-in-the-blanks, MCQ, sentence-completion and other quiz-like tests to test their knowledge. For each test taken, the learners get stars based upon their performance. Some exercises also require the learners to record, speak, type an answer and submit it to the native community for correction and feedback. As a tutor, one can also provide cultural notes to other learners, thereby further enriching a learner's experience of learning a language and building communities of learners in a real sense of the term. However, a drawback of this approach is that since the tutor and the learner may not know each other personally or be aware of the exact level of each other's proficiency, the comments given by one person may not be understood by the other at a different (usually lower) level of proficiency. One important thing to note here is that this program would work best for learners who are self-motivated to learn a language.

## **Duolingo**

Duolingo, launched in 2011, is a language learning program available both as a website and as a mobile application for both Android and IOS devices. This program is completely free without any hidden charges or premium packages. This program offers learning courses for a total of twenty-seven languages including Spanish, French, German, Italian, English, Portuguese, Dutch, Irish, Danish, Swedish, High Valyrian, Russian, Swahili, Polish, Romanian, Japanese, Greek, Esperanto, Turkish, Vietnamese, Hebrew, Norwegian, Ukrainian, Hungarian, Welsh, Czech, and Korean. This program runs on a core principle of making learning fun with the help of gamification of the content to be learned. Languages are split into bite-sized skills that feel like games. Players/users gain points when they complete a lesson and lose a life (Heart) when they answer incorrectly. The learners can also buy certain powerups from the 'Lingot store' in exchange for the Lingots (Duolingo's virtual currency) gained by them after completing challenges/levels. The length of these lessons is completely customizable by the learner depending upon the amount of information they can absorb from a single lesson. Each lesson focuses on reading, writing, speaking and listening skills by including a variety of translation, MCQ, listening and speaking skill-based challenges. The lessons are designed on certain "skills" (as conceptualised by the program), i.e., the learner will get lessons on food, animals, phrases, accusatives, plurals, adjectives, possessives, occupations, numbers, locatives among many more. For those learners who don't perform so well on a challenge, the program further guides them for improvement. One feature that really helps in keeping the learners motivated (apart from the gamification) is the program's feature 'Streak count' feature which keeps a track of the number of consecutive days a learner spends for learning a language. Apart from the free language learning content, this program also offers its users to undertake an online Duolingo English Test (DET) that testifies and certifies the users' English language proficiency. The DET has been accepted by various leading institutions such as Tufts University, Harvard Graduate school of Design, Harvard Extension School, California State University, NYU, UCLA and many more. The program also gives its users' access to the Duolingo Labs where the learners can expose themselves to the Duolingo's experimental projects such as 'Duolingo Stories', 'Duolingo Events' etc. The 'Duolingo Incubator' feature enables bilinguals to share their knowledge and hence contribute towards the courses.

## **Memrise**

Memrise, launched in 2010, is a freemium language learning program available both as a website and as a mobile application for both Android and IOS devices. This program offers 10 languages (French, German, Spanish, Korean, Italian, Japanese, Russian, Chinese, Arabic, and Turkish) along with other computer languages like JavaScript and Python. The courses focus on making learning joyful and offer courses not just belonging to language learning but also to other disciplines such as Arts & Literature, Maths, Science, Natural World, History, Geography, Entertainment, Trivia and so on. The main attraction of this program is that this program is a user-generated and supported program, i.e., it utilizes its community of learners to improve and also teach language to other users. It uses a multimedia approach of presenting the course content and also stresses on memorization of vocabulary based on audio and image flashcards that help the learners with easy association of words. Along with word association, other memorization techniques and strategies such as 'Mnemonics',

'Elaborate Encoding' (new words are actively linked with words that the learners are already familiar with) are also frequently used by the program.

### Rosetta Stone

Founded in 1992, this program is a proprietary program aimed at providing language learning courses across 19 languages. One of the main features of this program include 'Dynamic Immersion'. It further includes the use of multimedia exercises for vocabulary building, speaking, listening, reading and writing. It also offers the learners to delve into the world of literature, thereby encouraging them to learn by reading stories and also immerse themselves into the culture of the target language. Also, through the feature of 'Rosetta world,' the users can play games and speak with other learners. Another striking feature that is not offered by any other programs discussed so far is that of 'Live Tutoring' under the name of 'Rosetta Studio'. Hence, an attempt is made to completely immerse the learner into the world of the target language. As a result of this, the learners absorb the language along with the culture, without any deliberate attempt (similar to the Creative Constructionist Approach). Table 1 presents more information on this program. It also presents a comparative view of all the five language learning programs discussed so far.

**Table 1: Comparison of language learning programs**

	<b>Babbel</b>	<b>Busuu</b>	<b>Duolingo</b>	<b>Memrise</b>	<b>Rosetta Stone</b>
<b>Format</b>	Website, Mobile App (IOS, Android)	Website, Mobile App (IOS, Android)	Website, Mobile App (IOS, Android, Windows)	Website, Mobile App (IOS, Android)	Website, Amazon, Mobile App (IOS, Android)
<b>User Base</b>	1300 new users per hour in its sixth year and 1,000,000 active paying subscribers	70 million registered users, growing at an average of 25,000 per day	150 million (Guliani, 2016)	26 million	Data unavailable for the year 2017 (over 9 million in 2014)
<b>Cost of Full Package (Premium version)</b>	\$6.95 per month, per language, for a period of twelve months	€ 5.83 per month for a period of twelve months	FREE (DET certification fee is \$49)	\$ 4.90 per month	\$ 10.75 per month for a period of twelve months
<b>Number of languages offered</b>	14	12	27	10 (excluding computer languages)	19
<b>The Average duration of each lesson (mins)</b>	5	10 minutes per day	4	Customizable	30

<p><b>Skills/areas in focus</b></p>	<p>Pronunciation, Listening, Reading, Writing, Speaking for both visual and auditory learning types (mostly only at beginner's level)</p>	<p>Reading, Writing, Listening, Speaking (from beginner to intermediate level as per the CEFR standards)</p>	<p>- Conventional skills of Reading, Writing, Listening, Speaking - Duolingo skills: food, phrases, plurals, adjectives, numbers, etc.</p>	<p>Reading, Writing, Speaking, Listening, Grammar, Pronunciation</p>	<p>Reading, Writing, Speaking, Listening, Grammar, Pronunciation</p>
<p><b>Strategies used</b></p>	<p>- Didactic method combined with cognitivist, behaviourist and constructivist strategies - Real-life conversations - Spaced Repetition - Building each course on learner's native language and personal interests</p>	<p>- Collaborative, cooperative learning - Communicative focus of each lesson - Variety of tasks and tests in multimedia formats - Personalized feedback system - Builds upon learner's previous knowledge</p>	<p>- Gamification of learning - Reinforcement in terms of gaining of virtual currency or losing of lives - Community involvement</p>	<p>- Memory strategies such as Mnemonics, - Elaborate encoding - Spaced Repetition - Gamification of learning - Community involvement - Reinforcement (in terms of level and ranks) - Choreographed testing</p>	<p>- Dynamic Immersion - Multimedia learning approach</p>
<p><b>Additional features</b></p>	<p>- Speech recognition tool - Review manager tool - Social media tool</p>	<p>- Social networking tool - Offers placement test</p>	<p>- Offers placement test - Streak count - Offers DET - Offers access to Duolingo Labs - Duolingo incubator - Social media tool</p>	<p>- Offers scheduled reminders - Offers computer languages (JavaScript, Python) - Offers courses in other school and university subjects - Humorous chatbots</p>	<p>- Rosetta studio - Rosetta World</p>



## Conclusion

It is clear from the above cases and their comparison (as presented in Table 1) that all these five language learning programs (in alphabetical order), i.e., Babbel, Busuu, Duolingo, Memrise, and Rosetta Stone, do not support individualised instructions as the content material is largely the same for all learners. Four out of five of these programs run on a freemium business model and offers around ten to nineteen languages. The languages offered by these programs are usually the ones that belong to the more dominant and powerful regions of the world or are widely spoken across the world. A separate and different discussion is required to establish this point, which currently is not under the scope of this paper. Most of these programs (Babbel, Busuu, Duolingo, Memrise) divide the act of language learning into constituent skills/components that can be covered/mastered through bite-sized lessons. Thereby following the constructivist view of language learning whereby the learner is consciously aware of his/her act of learning a language and actively construct their knowledge through interacting and negotiating the meaning of their dialogues and socio-cultural expressions in the target language. Rosetta Stone, on the other hand, seemed to operate on the Creative Constructionist Approach whereby the learners are not outwardly aware of their learning of a language, rather, they acquire the target language as a result of immersion into the linguistic environment while being engaged in the process of receiving and comprehending inputs in that language. The strategies used by all these programs also vary. It was realized that more analysis needs to be done in this area to better understand the implications of using each of these or any other language learning programs. Future researches in the area can further look at learner's experiences and the implications thereof. Therefore, the paper encourages teachers, teacher educators, parents, and students to experiment teaching and learning of second or foreign language with these programmes and further contribute to the discourse of modalities required for efficient and effective teaching-learning of foreign languages in the digital age.

*(Disclaimer: The views expressed in this paper are personal to the author and do not necessarily represent the views of the author's employer, organisation, committee or other group or individual.)*

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