

## FEATURES OF SMART LEARNING

Mariana Coanca<sup>1\*</sup>

### ABSTRACT

*The first section of our paper deals with an insight into pedagogy and how technology can contribute to successful teaching and learning. The paper points out the fact that both teachers and learners have realized the importance of communicational competence in exchanging information, knowledge, experiences, values, attitudes, etc. for a more efficient use of m-learning opportunities to enhance language skills. Therefore, in the next sections we focus on the presentation of the most popular mobile apps which are essential for a transformational learning experience. Developing a strategy which relies on the innovative and meaningful use of technology will cater for diverse student needs.*

**KEYWORDS:** *smart class, m-learning, pedagogy, foreign languages.*

### 1. INTRODUCTION

Any teaching process has as a general purpose the exploration and optimal exploitation of students' learning resources. One of the most important such resources is the learning style. Learning style is the expression of a strategic learning specific to learning. Unlike the cognitive style, which refers to the organization and control of cognitive processes, the learning style refers to the organization and control of learning and acquiring knowledge strategies. Closely related to the overall structure of the student's personality, his learning style is formed (in fact, the individual preferences for the specific learning environment, the preferred learning and study pathways, the preference for structured versus unstructured situations for teamwork versus self-learning, for the rhythm of learning, with pauses or sustained) (Woolfolk, 1998:128). According to Kolb, the learning style identifies the concrete ways in which the individual reaches changes in behavior through experience, reflection, experiment and conceptualization (Cerghit apud Kolb, 2002: 208). More recent studies have identified three categories of learning style: style centered on meaning, specific to the student predisposed to engage in learning tasks based on intrinsic motivation (curiosity, pleasure); reproductive style, which describes the student who is predisposed to engage in learning tasks and makes special efforts for fear of failure (extrinsic motivation); a style focused on acquisitions, which involves extrinsic motivation which is linked to hope for success (this student will make special efforts to acquire new and new knowledge in the hope of the rewards it brings). Other authors prefer the phrase "approach" instead of learning task. Research on learning style has attempted to identify not only the variables that define the learning style but also their

---

<sup>1\*</sup> corresponding author, Lecturer, Ph.D., Romanian-American University, Bucharest, Romania, coanca.mariana@profesor.rau.ro

influence on learning, as well as those variables that can be controlled, optimized by training.

Kolb's Inventory (1981) (Kolb Learning Styles Delineator) analyzes students' preferences for: Concrete Experience (Learning by Direct Involvement); Abstract conceptualization (learning by building concepts and theories for describing, explaining and understanding their own observations); Reflective observation (learning by observing others or by reflecting on one's own experiences or others); Active experimentation (learning by using available theories and concepts to solve problems and make decisions).

Heppell (1993) pinpointed three learning stages that are noticeable in student's use of technology: a narrative stage characterized by observing and listening to things on the technology; an interactive stage where there are opportunities to explore; and a participative stage in which the learner is able to create new media as a result of the investigations.

In the twenty-first century the textbook is no longer the norm. It has become incidental and took on different forms, such as wireless technology, hand-held devices, m-learning and e-mail dialogue. The technological knowledge and skills will be essential components in training programs for teaching staff. These are part of the lifelong learning paradigm which was driven by the rapid social, technological and economic changes that have determined people to prepare for second or third careers and to keep themselves updated on new developments that affect their personal and social goals (Ornstein & Levine, 2008: 438).

## **2. M-LEARNING UPTAKE**

The following mandatory aspects for a responsible educational attitude towards all the actors involved are highlighted in many studies (see Bradea, 2009; Marimescu, 2009):

- Selecting didactic methods, procedures, and specialized content according to the learners' needs and the dynamics of their knowledge;
- Organizing professional situations/contexts in which the interaction of learning prevails, to place the learner at the center of the learning process, stimulating receptivity, productivity and creativity in the target language;
- Stimulating, maintaining and capitalizing on motivational tensions in activities which target text and the context of specialization;
- Enhancing the foreign language teacher-student relationship, in the sense of mutually beneficial cooperation for the high efficiency of the instructive-educational process;
- Adjusting the syllabi to meet the needs of learners and introduce digital pedagogy;
- Modernizing the study conditions (specialized content manuals, multi-media laboratories, etc.) that facilitate the activities and operations for the amplification of general and communicative skills in favor of the specialist language in foreign language;
- Indicating the need for a possible (optional) orientation in psycho-pedagogical training and methodologies of future modern language teachers, in line with the training requirements at university level and socio-cognitive maturity of educators;

- Signaling the need for a (optional) orientation in psycho-pedagogical training and methodology of future modern language teachers, in accordance with the training requirements at university level and socio-cognitive maturity of educators;
- Developing programs of continuous training for teachers of foreign language (seminars, conferences, psycho-pedagogical and applied didactics studies, etc.);

The active participatory methods include all those methods that trigger an active learning state, a learning that is based on one's own activity. These are the methods that lead to the active forms of learning, explorative learning, problem-solving, learning by doing, creative learning; these are methods that train students to carry out independent study, work with books, research, practical things, creative exercises, etc. Active learning engages productive-creative capacities, thinking and imagination, appeals to the mental and cognitive structures that the student has and which is used in producing the new learning. Modern education is based on an action-oriented methodology. From this point of view, active-participatory methods are based on the idea of the operational constructivism of learning (Cerghit, 2006).

Self-education can be considered “a conscious, systematic activity, oriented towards a goal that each individual deliberately proposes and for which it is necessary to make a personal effort” (Marinescu apud Barna, 2009). The consciousness is imprinted by the fact that self-education is a process that is done voluntarily when the person has reached a degree of maturity that allows him to realize the importance of self-education in his personal and professional development. Promoting self-education can be a formative objective, which can be designed and pursued in educational approaches (effect) and at the same time, a premise (because of) an education of genuine quality. The main stages of self-education (Marinescu apud Barna, 2009; Marinescu apud Blândul, 2005) are the following: understanding the need for change as self-education starts from a reality that needs to be changed, the person being aware of this need; existence of the desire for change, in other words the intrinsic motivation of the desire for change is an essential condition in the realization of self-education; self-analysis of own resources and possibilities when there is a need for self-knowledge for the identification of the strong and vulnerable points, respectively for capitalizing the bonuses and correcting the latter; establishment of the proposed objectives – which are realistic objectives and in accordance with the person's possibilities of identification; proceed in line with the proposed objectives, which implies a voluntary effort to overcome external and internal barriers; evaluation of the results of that action, which is in line with the initial objectives and the requirements in which they were achieved.

M-learning is a new paradigm that creates a new educational environment where learners have access to course syllables, instructions and applications, anytime, anywhere. It is a learning situation that integrates mobile connection tools that create the premise of an area of spread of messages, practically global, at the planetary scale. M-learning is different from traditional training in the sense that all components of traditional learning change functionality in mobile learning.

Both teachers and learners, for an efficient use of m-learning opportunities, should be aware of the importance of communicational competence in exchanging information, knowledge, experiences, values, attitudes, etc. (Marinescu, 2009: 85-87).

Several novelties induced by *m-learning* compared to *e-learning* are outlined below (Marinescu apud Sharma & Kitchens, 2004):

- Instruction based on several audio, visual and animated sequences;
- Learning takes place in mobile locations, spread anywhere;
- Notification of the arrival of an email is done instantly;
- Communication is direct, spontaneous, synchronous;
- Flexibility;
- Audio and video conferencing;
- 24 hours / 7 days, instant connections;
- Unlimited connection space;
- Connection is done without waste of time;
- Group is made up of virtual connectivity;
- Rich communication, without inhibitions, with subjective inflexions;
- Placement and testing is in any place;
- Time interval is variable, as much as each student needs;
- Individualized tests;
- Rich feedback;
- Immediate feedback;
- Flexibility in terms of difficulty and number of problems to solve;
- Tests are based on text, but they are also based on audio and video interventions
- Marking and notifying the results is done electronically;
- Examination is done when the learner is available;
- Interlocutor time is used to support and individualize training;

### **3. POPULAR TOOLS**

#### **a. Lingoos**

It is a dictionary and multi-language translation software providing results in over 80 languages. It offers full text translation, capture word on screen, translate selected text and pronouncing text and abundant free dictionaries as a new generation dictionary and translation software. Lingoos offers users the instantest way to look up dictionaries and translation among English, French, German, Spanish, Italian, Russian, Chinese, Japanese, Korean, Swedish, Thai, Turkish, Vietnamese, Greek, Polish, Arabic, Hebrew and more over 80 languages. It is one of the best tools for learning all kinds of languages. (<http://www.lingoos.net/en/translator/index.html>)

With the creative cursor translator, Lingoos automatically recognizes the word and its definition as soon as one moves the cursor and point to any text then press the key. It owns full features of current popular commercial software, and creatively develop cross language design and open dictionaries management. We noticed that a plenty of dictionaries and thesauruses are listed for free download. (<http://www.lingoos.net/en/translator/index.html>)

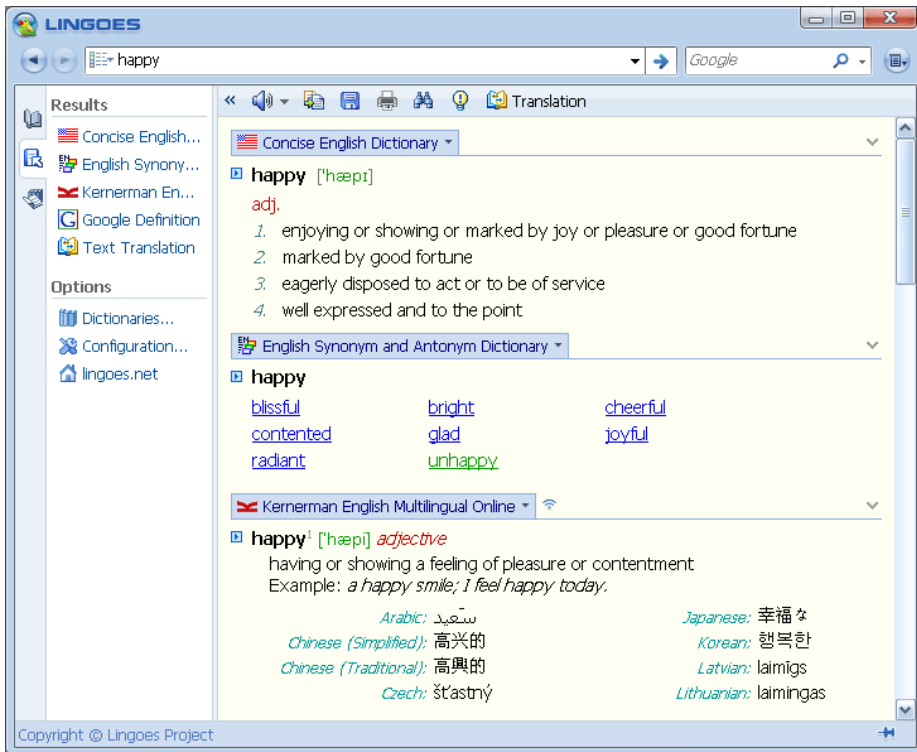


Figure 1. Lingoies interface

We have listed its features below (<http://www.lingoies.net/en/translator/index.html>):

- Lingoies offers text translation and dictionaries in over 60 languages in the world and supports cross translation between different languages;
- The online translation service offered by Lingoies integrates the most advanced text translation engines in the world, including Systran, Promt, Cross, Yahoo, Google and Altavista, etc, which makes text translation very easy. One can freely choose these engines for translation and compare the different results generated by different engines to help understand the texts in languages which he/she is not familiar with;
- One can translate words in any places of the screen by using the cursor translation function of Lingoies. By simply pressing Shift key, the system will automatically recognize the words selected by the cursor and display results;
- Lingoies integrates cursor translator, looking-up in dictionaries and intelligent translation by creative “translate selected text”. Once a selection of a word or sentence is made on screen by cursor, it will translate as many as 23 languages of text into a native language;
- Lingoies provides the function of words and texts pronunciation based on the newest Text to Speech (TTS) engine, which can help one quickly learn the pronunciations of the words and is very convenient for study and memorizing;
- The open management allows an easy download and install dictionaries according to own needs;

- There are provided thousands of dictionaries in all kinds of languages and fields for users to free download and use;
- Without local dictionaries, one can make use of online dictionary service and get more results;

**b. Duolingo**

This app has become a very popular example of mobile language learning, mainly because it is not aimed solely at an English native speaker. Many Duolingo courses are created by native speakers themselves which empowers communities and language passionate to get involved and gave rise to perhaps less expected courses such as Guarani or Klingon. For each language there are specific courses that aim at those with different first languages, which to date produces 81 courses. (<https://www.lingualift.com/blog/best-language-learning-apps/>)

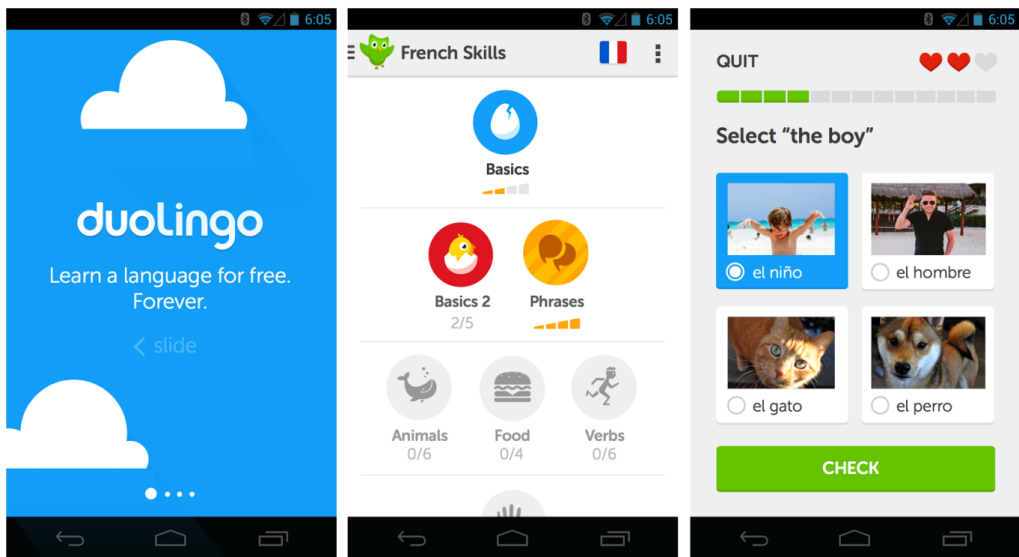


Figure 2. Duolingo interface

Since launching in 2012, more than 150 million students from all over the world have enrolled in a Duolingo course, either via the website or mobile apps for Android, iOS.

In order to establish its efficacy, Feifei Ye assesses some of the evidence for validity and reliability of the Duolingo English Test for non-native English learners. In addition, the Duolingo test scores were linked to TOEFL iBT scores to establish concordance. Scores from the Duolingo English Test were found to be substantially correlated with the TOEFL iBT total scores, and moderately correlated with the individual TOEFL iBT section scores, which present strong criterion-related evidence for validity. The Duolingo test scores presented high test-retest reliability over a two-week interval. Equipercentile linking was used to establish concordance between TOEFL scores and the Duolingo test scores. Duolingo English Test scores are on a scale of 0–100 and TOEFL iBT total scores are on a scale of 0–120. For international students to apply for studying in US

universities, the minimum cut-off score of TOEFL iBT is 80 and a more selective cut-off score is 100, corresponding to scores 50 and 72 respectively on the Duolingo English Test (Ye, 2014).

A worth-mentioning study by Settles & Meeder uses data from Duolingo to fit HLR models, reducing error by 45% compared to several baselines at predicting student recall rates. HLR model weights also shed light on which linguistic concepts are systematically challenging for second language learners. Finally, HLR was able to improve Duolingo daily student engagement by 12% in an operational user study. Introduction The spacing effect is the observation that people tend to remember things more effectively if they use spaced repetition practice (short study periods spread out over time) as opposed to massed practice (i.e., “cramming”).

Another study makes several contributions to student modeling. The author presents models of student learning that generalize several prominent existing models and outperform them on real-world datasets from Duolingo. Second, he shows how these models can be used to visualize student performance in a way that gives insights into how well an intelligent tutoring system “works”, improving upon the population-level learning curve analysis that is typically used for this purpose. Finally, by demonstrating that relatively simple mixture models can deliver these benefits, the author expressed his hope that further work will focus on more sophisticated approaches that use mixture models as a building block (Streeter, 2015:1).

The Duolingo dataset consists of a collection of log data from Duolingo. Students who use Duolingo progressed through a sequence of lessons, each of which took a few minutes to complete and taught certain words and grammatical concepts. Within each lesson, the student was asked to solve a sequence of self-contained challenges, of various types. For example, a student learning Spanish may be asked to translate a Spanish sentence into English, or to determine which of several possible translations of an English sentence into Spanish is correct. For these experiments, the author focused on listening challenges, in which the student listens to a recording of a sentence spoken in the language they are learning, then types what they hear. Listen challenges are attractive because, unlike challenges which involve translating a sentence, there is only one correct answer, which simplifies error attribution. For these experiments the author used a simple bag-of-words knowledge component (KC) model. There is one KC for each word in the correct answer, and a KC is marked correct if it appears among the words the student typed. For example, if a student learning English hears the spoken sentence “I have a business card” and types “I have a business car”, then the author would mark the KC card as incorrect, while marking the KCs for the other four words correct. This approach is not perfect because it ignores word order as well as the effects of context (students may be able to infer which word is being said from context clues, even if they cannot in general recognize the word when spoken). However, the learning curves generated by this KC model were smooth and monotonically decreasing, suggesting that it performs reasonably well (Streeter, 2015:48).

### **c. Hello Talk**

An app aimed to facilitate speaking practice and eliminate the potential stress of real time conversation. Learners can find native speakers and converse with them using a whatsapp-like chat with voice and text messages.

Users can correct each other's messages with an in-built correction tool, which transforms the language exchanges into tiny tutoring sessions. The app also has an integrated translation system to help one avoid those moments when he/she really wants to communicate something but just lacks the one word that gives the sentence its proper meaning. (<https://www.lingualift.com/blog/best-language-learning-apps/>)

### **d. Busuu**

Busuu offers full courses in 12 languages. The app is free but to unlock most of the features and course materials one has to invest \$17 a month. The app takes the learner through learning individual words to simple dialogues and questions about the dialogues all of which include audio where the learner can listen to native pronunciation.

The lessons are organised in topical themes where we learn skills and expressions connected to tasks. The special aspect of Busuu is that learners can engage native speakers in their personal learning process. Busuu learners contribute their native speaking skills to the platform by correcting texts created by those who study their language. The desktop version even allows learners to chat to native speakers in real time (<https://www.lingualift.com/blog/best-language-learning-apps/>)

### **e. Babbel**

The free version comes with 40 classes, so even without investing money the app allows students to learn a fair amount of phrases in one of the 13 languages it teaches. Each class starts from step-by-step teaching of vocabulary with the aid of pictures. Then the words are being used in related phrases and short dialogues adjusted to the student's level to help quickly build conversation skills. Handy pop-ups with the app explain most important grammatical points related to the learned material and the desktop version includes short cultural notes.

Apart from the general beginner's courses, Babbel also has separate packages devoted to improving specific skills such as grammar or vocabulary. (<https://www.lingualift.com/blog/best-language-learning-apps/>)

### **f. Memrise**

The fun of Memrise lies in two things: memes and gamification. The app follows a learning method that relies on creating funny or bizarre associations with the studied words. Courses are often coupled with memes designed to playfully help remember the vocabulary. The memes are created by the community and everyone can add their own. The power of Memrise also lies in two things: spaced repetition and mnemonics. The spaced repetition algorithm calculates when and how often one should review each word and the app will send the learner reminders when it's time to review. (<https://www.lingualift.com/blog/best-language-learning-apps/>)



### **g. Leaf**

Based on one's location and phone usage the app suggests most relevant lessons. It can predict what contexts will enhance learners' experience and suggest contexts to suit the needs of the moment. The lessons are short and written in simple English. Each teaches you a specific practical skill and can be read in a couple of minutes. (<https://www.lingualift.com/blog/best-language-learning-apps/>)

### **h. Lingua.ly**

At first the app will assess the level of the learner, by asking whether he/she knows specific words it will estimate the learners' level and the range of learners' vocabulary. As one learns he/she will be shown a text. Clicking on a word he/she does not know one will see its translation, hear it pronounced aloud and have it added to a learner's database of words. Based on this feedback the app will be able to match future texts to one's level more accurately. The study is based on texts pulled from the internet, therefore learners will never complain for the lack of material. (<https://www.lingualift.com/blog/best-language-learning-apps/>)

### **i. TripLingo**

As the name suggests the app is aimed at travellers who need to improve their language skills before their dream holiday. The app is aimed to get one to speak and be understood so that he/she should not feel lost in a foreign environment. A feature called the slang slider displays different levels of formal or casualty of each phrase so one can adjust it to the specific context he/she is in. The lessons are divided into handy sections such as "safety phrases" or "business phrases". TripLingo is also an emergency resource. It has an inbuilt voice translator rendering English in the foreign language, and when one is really at a loss of words he/she can even call a real translator. (<https://www.lingualift.com/blog/best-language-learning-apps/>)

## **4. CONCLUSIONS**

The implemented interactive technology is used below its technical and pedagogical potential. In order to develop this potential, close collaboration is needed between technology developers and teachers in different education segments. The main needs identified in the learning environment in the studies conducted so far on interactive teaching resources are: interactivity, compatibility and independence of certain technologies, fast access, interculturality issues and knowledge of an international language, collaborative learning, flexibility and adaptability.

Teaching methods used in foreign language acquisition are those centered on learning, developing cooperation skills, communication and relationship; due to technological advancements, we need to develop new strategies for the mobile age and conceptualize learning, reconsider traditional methods and capitalize on them in a digital environment to create diverse learning situations with regard to the acquisition of a foreign language.

## REFERENCES

- [1] Angelelli V. Claudia. (2015). Studies on Translation and Multilingualism. Public Service Translation in Cross-Border Healthcare. Final Report for the European Commission Directorate-General for Translation Reference: DGT/2014/TPSLuxembourg: Publications Office of the European Union, ISBN 978-92-79-47163-6 doi: 10.2782/765472
- [2] Bradea O.L. (2009). Principii și criterii în activitatea de predare-învățare și evaluare a limbilor străine moderne la nivel universitar. The Proceedings of the “European Integration – Between Tradition and Modernity” Congress, 3, pp. 1215-1226, Editura Universității Petru Maior, Tîrgu Mureș, ISSN 1844-2048.
- [3] Braun S. and Taylor J. (2011): „Rezultatele AVIDICUS partea I: Perspectivele serviciilor juridice și a interpreților juridici asupra interpretării tip videoconferință sau la distanță – rezultatele a două sondaje europene”. [http://www.videoconferenceinterpreting.net/files/AVIDICUS\\_symposium\\_abstracts.pdf](http://www.videoconferenceinterpreting.net/files/AVIDICUS_symposium_abstracts.pdf)
- [4] Settles, B., Meeder, B. (2016). A Trainable Spaced Repetition Model for Language Learning. Proceedings of the Association of Computational Linguistics (ACL), pp. 1848-1858.
- [5] Cerghit, I. (2008). Metode de învățământ, Editura Polirom, Iași.
- [6] Cerghit, I. (2002). Sisteme de instruire alternative și complementare. Structuri, stiluri și strategii, Ed. Aramis, București.
- [7] Feifei Ye. (2014). Validity, Reliability, and Concordance of the Duolingo English Test Technical Report, University of Pittsburgh, May 2014 [englishtest.duolingo.com/resources](http://englishtest.duolingo.com/resources)
- [8] Heppell, S. Teacher Education, Learning and the Information Generation: The Progression and Evolution of Educational Computing Against a Background of Change. Journal of Information Technology for Teacher Education, vol. 2, no.2, pp. 229-237.
- [9] Margaritoiu A., Brezoi A. (coord. Suditu M.) Metode Interactive de Predare-Învățare, suport de curs.
- [10] Marinescu M. (2009). Tendințe și orientări în didactica modernă Editura Didactică și Pedagogică, București.
- [11] Ornstein, A., Levine, D. (2008). Foundations of Education. Houghton Mifflin Company, Boston.
- [12] Streeter Matthew. (2015). Mixture Modeling of Individual Learning Curves. Proceedings of the International Conference on Educational Data Mining (EDM), pp. 45-52.
- [13] Woolfolk, A. E. (1998). Educational psychology. Boston Allyn & Bacon.

Online sources:

<https://www.lingualift.com/blog/best-language-learning-apps/>  
<http://www.lingoes.net/en/translator/index.html>