



## AN EVALUATIVE CHECKLIST FOR COMPUTER GAMES USED FOR FOREIGN LANGUAGE VOCABULARY LEARNING AND PRACTICE: VOCAWORD SAMPLE

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**Abstract:** The purpose of this paper is to draw attention to the use of games in FL teaching and learning, and to present a vocabulary learning game which can be used as supplementary material in CALL and/or traditional language classes in any language, and to compare it with two other widely used games in FLT. A criteria checklist for CALL systems and more specifically for vocabulary learning software is offered and applied to the evaluation of one game, namely *VocaWord*. The checklist's application to the game showed that the weakness of the game is half as much, and the strengths might be twice as much compared to Scrabble and Taboo, which are commercially oriented games widely used by teachers and foreign language learners. These results suggest that *VocaWord* is a promising game that has the potential to be quite effective. The study underlines the necessity to develop more educational games that can be used in CALL.

**Key words:** evaluation, vocabulary, material development, CALL, checklist

**Özet:** Bu makalenin amacı yabancı dil öğretimi ve öğreniminde oyunların kullanımına dikkat çekmek ve bilgisayar destekli dil öğreniminde ve/ya geleneksel sınıf ortamlarında (her dilde) yardımcı materyal olarak kullanılacak yeni bir oyun öne sürmek ve yabancı dil öğretiminde yaygın olarak kullanılan başka iki oyunla geliştirilen oyunu kıyaslamak. Bilgisayar destekli dil öğretimi sistemleri için ve özellikle sözcük öğrenme yazılımları için bir kontrol listesi önerilmiş ve *VocaWord* adlı oyunun değerlendirilmesinde uygulanmıştır. Hazırlanan kontrol listesinin oyuna uygulanması sonucunda daha çok ticari amaçlı olarak hazırlanmış ve öğretmenler ile yabancı dil öğrenenler tarafından geniş çapta kullanılan Scrabble ve Taboo oyunlarının zayıflıklarının yarısı kadar zayıf yanı bulunduğu ortaya çıkarılmıştır. Bu sonuç *VocaWord* oyununun gelecek vaat eden ve oldukça etkili olabilme potansiyele sahip bir oyun olduğunu ortaya koymuştur. Bu çalışma bilgisayar destekli dil öğrenimi alanında kullanılacak daha fazla eğitim amaçlı oyunun geliştirilmesinin gerekliliğini vurgulamaktadır.

**Anahtar sözcükler:** değerlendirme, sözcük, materyal geliştirme, bilgisayar destekli dil öğrenimi, kontrol listesi

### Introduction

Vocabulary has always been one of the most important issues related both with teachers and learners of foreign languages. Krashen (in Lewis 1993) has commented that learners do not carry grammar books in their pockets, but they carry dictionaries. Likewise, while without grammar very little can be conveyed, without vocabulary nothing can be conveyed (Wilkins 1972:111). Many aspects of foreign word teaching and learning have been investigated and discussed with increased interest during the past three decades. While some studies have concentrated on word types, meanings and forms (e.g. Laufer 1990, 2006; de Groot and Keijzer 2000; van Hell and Mahn 1997; Nissen and Henriksen 2006) some have focused on vocabulary learning and/or teaching strategies, methods, testing and assessment (e.g. Meara 1992, 1997; Meara and Fitzpatrick 2000; Hulstijn and Laufer 2001; McCarthy 1990; Nation 2001; Schmitt 2000) and

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with the recent improvement in educational technologies, others have shed light on how computers or various kinds of software could aid FL learning (e.g. Groot 2000; de Freitas and Griffiths 2008; Ranalli 2008; Yip and Kwan 2006; Grace 2000). However, very few studies have concentrated specifically on word acquisition through games.

Processes of language learning have become more engaging by means of educational games which are believed to add fun to classrooms where students would feel more relaxed and comfortable. Games create an environment where education is mostly learner-centred, with a good opportunity for socialisation when well organised, and awakening the will to win and competitive desire inside people. Freiermuth (2002) has stated that games are learner-centred since they give students the opportunity to resolve problems without the intervention of a teacher. Schwienhorst (2002) has noted that games provide realistic sociocultural context for language learning. Purushotma (2005) has suggested that games can be so highly motivating that they can even cause addictive behaviour. These advantages of games can help teachers create a willing, ready to learn, active and energetic atmosphere in their classes. The fact that people feel better, get less tired, and are highly motivated when they do things they enjoy, such as playing games, is the main inspirational idea of this work (Bakar, Tuzun, and Cagiltay 2008; Sakhuseyinoglu 2007; Bayirtepe and Tuzun 2007; Tuzun 2006). And, as a matter of fact, personally I believe that the aim of education should be teaching or learning more, or let's say better qualitatively, rather than just quantitatively. So, searching for ways to get students out of this pain-giving process (as some learners say) in a shorter time with more qualitative knowledge while enjoying themselves has been the motivation for the idea stated above.

Although there is not much statistical research about the use and efficiency of games in FL education, there are hardly any negative opinions given against games by teachers or students either. This non-written, statistically or scientifically non-proven fact is a clear indicator that everyone likes games regardless of their age, gender, or level. Noticing this fact can contribute much to the field. Yip and Kwan (2006) showed that students preferred learning that is supported by digital educational games rather than traditional activity based lessons. According to their study, students who were provided with an electronic environment and games became more successful in learning new words compared to those who learned the same vocabulary through activity based lessons. Therefore, teachers or parties that complain about the insufficiency of the current methodology and strategies necessitated by language teaching programs might be willing to set up or try new techniques where games could play a major role. Teaching words, grammar, writing, or speaking, for instance, through games might be effective and enjoyable. Nevertheless, although naturally basing all curricula on games would be a very radical step demanding a lot of courage, using games more often in language classes would do no harm when the activity is well planned and under the control of teachers.

There are materials in which various kinds of games are presented as additional materials to language teachers. However, not all course books include games in their units, perhaps because they are too time-consuming. One might speculate that book writers, academicians, teachers, and the system itself, etc. value mostly quantitative education, hurrying to finish the unit of a book or the parts of the curriculum, and worrying too much about time. Again, despite the recent trend which highlights communicative teaching methods, games are considered only with limitation or almost completely neglected, at least in my environment where I have observed that either games are not used at all, or ineffective or irrelevant games are played in language classes. Macedonia

(2005) suggested that not every exercise is a good or appropriate exercise to improve learners' communicative skills. She underlined the necessity to think about the emotional needs of learners, and implied that lessons are not always designed or planned accordingly with this. She also stressed the difference between theoretical knowledge and practical knowledge, pointing out the necessity that lessons be delivered so that learners are actively and creatively involved in the learning process, which might be realised by games, rather than just having them as audiences. To this end, it seems that more importance should be attached to games because what happens inside classrooms is already not natural, which makes it like a game in any case. Role-play activities, pair or group work tasks might be based on games so that although this does not make the situation more realistic, it might make it more enjoyable. Moreover, students who do not see the activities and tasks as a burden might feel free of pressure and be more creative.

In addition to the ideas proposed above, games might help in eliminating anxiety in classes as well, which is an important contribution to the education process. FL teachers to whom I have spoken mentioned that learners who are free of anxiety generally feel more relaxed and willing to participate in activities, to try and produce. Scientists report that improving fun moments in instruction would enhance learning as this stimulates the dopamine system and functions as an amplifier for the learning process. Jones (1982) and Nemitcheva (1995), as well have pointed out that games are capable to reduce the fear of making mistakes, and so they lower affective obstruction in learning.

Both computer support and games are effective means that should not be neglected and be used more often in FL education. Nesselhauf and Tschichold (2002) noted that with the help of vocabulary building software for EFL it was very useful and easy to both implement collocational exercises and learn them. Hu hai-peng and Deng li-jing (2007) reported that multimedia vocabulary teaching is a very efficient approach in boosting learners' vocabulary knowledge. Loucky (2005) showed that online dictionaries and language learning web sites produce more effective and enjoyable reading and vocabulary learning lessons. Moreover, Huyen and Nga (2003) concluded that games can be used for the useful practice and review of language lessons, thus leading toward the goal of improving learners' communicative competence. Thus, it is important that teachers are encouraged to use digital environment materials that would address the emotional side of the learners as well, but also ensuring that they are supported with both a suitable curriculum and appropriate materials.

### **Personal Observations**

During my classes I have noticed that games are perceived as a reward or free time which highly motivates students, which supports Purushotma (2005) who has suggested that games can be so highly motivating that even addictive. They become so engaged in game activities that they stay in the classroom even in the break time. Rivalry and fun go together, creating both a friendly and competitive environment. Furthermore, all the games we played created a reinforcement effect that was helpful in the review of the lesson. There is no age for playing games. It might be even postulated that even if not the same, games have a similar effect on people of all age groups. That is what I have observed, at least in my classes, especially when I noticed that learners started to get tired and/or bored.

I have also observed that people learn lots of words from games that they play on computers. Children of my nephew for example surprised me so much when they told me some words in

English, because they had only started school a few years before, and had not had English classes yet. I realised that they had learned these words from computer games since they were mostly of that language. Some examples are “start game, new game, game ended, options, settings, easy, medium, hard, weapon, car, etc.” which are all related to a computing and games context. It would not be an exaggeration to say that they know at least 50-100 words in English, which is a good number for children who have just learned to read and write in their native language, and have never been exposed to English formally. Likewise, Miller and Hegelheimer (2006) observed that vocabulary and grammar knowledge of students who played *The Sims* significantly increased. Almost all researchers agree that it is very important to equip learners of FL with the first 2000 most frequent words as soon as possible. It is additionally suggested that vocabulary might be learned better in context (e.g., Groot, 2000; Ellis, 1997). Therefore, it would be easy to achieve this (providing people with the most frequent words in context) with the help of nicely and appropriately developed vocabulary learning software (games) as it is so obvious that children of the current digital age grow up with computers and computer games.

### **VocaWord**

VocaWord is a game that I devised during the courses I have been teaching. The personal question “how can I make my students learn and retain more words” led me to the conclusion that I should provide them with an environment where they will focus specifically on vocabulary and often practise the words they learn. They should also enjoy themselves while learning, studying, or practising them so that they can willingly spend time on studying words again and again for hours.

### **Components**

VocaWord consists of a board (made up of 32 spaces), 3 card packs (quiz, cards 1, cards 2), and 4 packs of knowledge level (beginner, elementary, pre-intermediate, intermediate). These parts will now be described and explained in detail. After the units have been described, the rules of the game will be explained.

**The Board:** This consists of 32 spaces. These can be in the form of a square, circle, or other shape. Of the 32 spaces, there is the start space, two quiz spaces, one “relax” space, and four level spaces, and the remaining 24 spaces contain a letter of the alphabet (English alphabet in the present study). Each player in the game goes over these spaces and collects letters, has quizzes, challenges his knowledge to get level certificates, or relaxes. The background colour of these spaces is suggested as vivid and pastel, which will keep players awake but not tire their eyes.

**Card Packs:** There are 3 packs of tasks. On each card of each pack there are written directions or tasks to complete or follow. On QUIZ cards there are questions that players are to answer. These are cards of mini quiz tasks. On the CARDS 1 pack there are letters which are awarded as a bonus to the players. On the CARDS 2 pack there are directions to follow which are usually forfeits for the players.

**Knowledge Level Packs:** These are cards that ask specific questions belonging to the given level (Beginner, Elementary, Pre-Intermediate, Intermediate). In each level pack there are questions or tasks appropriate for that level asking students to complete or answer them. These cards provide the opportunity for players to obtain level certificates in a short time. (Teachers are free to rearrange the content of the cards in b and c according to the lessons.)

### **Rules of the game**

The purpose of the game is to make words using the letters that will be collected in the game, and to earn the certificates of "BEGINNER, ELEMENTARY, PRE-INTERMEDIATE, and INTERMEDIATE" levels. Obtaining all the level certificates in this game does not necessarily mean that the player is intermediate level. The first player who earns all the certificates is the winner of the game. As for the scoring, words between 1-3 letters = 1 points, words between 2-4 letters = 3 points, words between 5 letters = 5 points, words of 6 letters = 7 points, and words between 7 letters and above = 10 points. There are four levels; beginners level certificate 100 points, elementary level certificate 250 points, pre-intermediate level certificate 500 points, intermediate level certificate 1000 points.

- Players begin from the "START" space and advance according to the number thrown on the dice.
- If the space which the player lands on is a letter, these letters are collected in order to be used in the next stages of the game.
- If the space the player lands on is one of the levels, a card belonging to that level is picked. If the tasks written on the card are successfully accomplished, the certificate belonging to that level is earned. If the task is not accomplished correctly, then the player pays a forfeit by missing a turn.
- If the space landed on after rolling the dice is "QUIZ", a card belonging to that space is picked. If the question written on the card is answered correctly, a card from the "CARDS 1" pack is picked and saved to be used in the next stages of the game (on the card there will be a Joker or a consonant or vowel). If the question written on the card is answered wrongly, a card from the "CARDS 2" pack is picked and the direction written on the card is followed (On the card, you will be required to give away one of your consonants or vowels. If you do not have a vowel, you will have to give two consonants).
- When each certificate has been obtained, any 3 letters are gained as a BONUS.
- Players are free to trade the letters they have in any ways they agree with each other.

### **Benefits of the game**

VocaWord is a game that allows learners to practise the words they have learned while they enjoy themselves. It is a good strategy game that provides the opportunity to challenge other players and also to learn new words from each other. VocaWord is a strategy game that is very easy to play, and which allows teachers to prepare the questions and tasks appropriate to the course. VocaWord is a game that can be played with persons of different levels all together. The "luck" factor makes players feel free of failure anxiety.

Another very significant advantage of the game is that it can be adapted to any language by simply changing the letters of the alphabet on the board, which makes the game playable in all languages for all FL learners both in the classroom and out of it. VocaWord is a game that helps players learn and memorise words by visually enhancing the process. It helps in spelling as well, which improves writing skills and minimises spelling errors.

The software version of VocaWord is envisaged as either a 2D or 3D game with lots of options and attractive scenes. Players will also have the opportunity to play against the CPU players of the level they choose. All scores will be shown on a table, and words will be displayed along with

their meanings in the opposite languages. Players will have the opportunity to complete the first stage of the game and go on to the second stage, which will be discussed in the “Additional Software” section.

The aim of this paper is to draw attention to the necessity and efficiency of games in FL teaching and learning. Firstly, some general aspects of games are discussed by focusing on the promising potential of the games-computer combination in FL teaching. Secondly, a new criteria checklist, which was adopted from the evaluative criteria proposed by the National Foreign Language Resource Center, University of Hawaii at Manoa, and Chapelle, 2001 (Criteria for CALL task appropriateness) and adapted for easier use in evaluating CALL systems and more specifically vocabulary learning software, is to be offered and by using this checklist, VocaWord is evaluated for its potential. Thirdly, some other games that are widely used in FLT (Scrabble and Taboo) are compared with VocaWord by using the checklist. Lastly, suggestions and pedagogical implications are provided, and necessity for further research is emphasized.

## **METHOD**

### **Participants**

In order to receive an objective view, two professionals were consulted for help in the evaluation of the games. One of the consultants held MA in English Language Education and Linguistics, an academician, and the other consultant was a teacher who was working as a full time teacher of English at a secondary school. They already knew and used Scrabble and Taboo in their classes. The scope and rules of VocaWord were explained to them by the researcher, and critical brainstorming was carried out about the basic principles of the developed game, which was proposed to offer more than the other two games. Following that session which took approximately half an hour, the consultants were asked to take time to think about the potential of the games, and to take notes related to the strengths and weaknesses of each game. One day later they were invited back and were given the checklist which was prepared by the researcher. The notes that they had written down were collected for further evaluation, and are reviewed in the discussion.

The consultants were informed to take as long as they needed to carefully complete the evaluation. They were asked to put a mark in the boxes which were next to each item of the checklist if they believed the game comprised and/or included and/or met the criterion stated. They filled separate checklists for each game. Both participants completed the evaluation within 15 minutes. The responses of the consultants were analysed and only mutual ones were regarded as “Yes” response. In other words, if one of the consultants put a mark in the box for an item and the other consultant didn’t, then the response was considered as “No”.

### **The instrument**

The instrument of evaluation used in this study was the checklist which was adapted from the following two lists. The checklist proposed by National Foreign Language Resource Centre, University of Hawaii at Manoa provided comprehensive and detailed points that can be used to assess the value of CALL systems. It was skill-based, which means it served some criteria regarding the assessment of certain skills and the efficiency of any prepared software although it did not necessarily concentrate on games. Another list was proposed by Chapelle (2001) focusing on the task appropriateness in CALL. In that list there was some interest on factors such as language learning potential, authenticity, positive impact on learners, and practicality. So, combining the criteria forwarded in those two lists and creating a new and easy-to-use checklist

specifically for games might help to evaluate foreign language learning games in the most convenient way.

The checklist offered in this study is formed of two parts. The first part (see Appendix 2) is intended to evaluate the general scope of a game, which might be any kind of software, and the second part (see Appendix 3) specifically focuses on vocabulary acquisition games. Having this checklist (the first part) as criterion, the three games mentioned above were evaluated. As it might be noticed, the first 23 items in the general evaluation checklist concentrate on the users targeted, the proficiency level that the game can be applied, the skills that a game contributes to, and the resources provided as support for players/learners. The last 8 items, however, mostly focus on to what extent a game meets the qualities of the digital environments.

Since there aren't many "vocabulary learning" games developed and used in language classes, and Scrabble and Taboo games are not actually educational games that aim at vocabulary acquisition, in this study only Appendix 2 was consulted to check just the "general scope" of the three games and to make a conclusion about their general value of use. In this sense, each game was appointed "Yes" or "No" value for all 31 items in the general scope checklist to determine to what extent the mentioned games meet the evaluative criteria, and to what extent they comprise the innovations of the digital age.

## FINDINGS

The results related to the evaluation of the three games that was done by the two consultants with the help of the checklist are presented in Table 1. As shown in the table, Scrabble received 16 Yes and 15 No, Taboo received 13 Yes and 18 No, and VocaWord was appointed 23 Yes and 8 No values. Hence, despite its handicaps, VocaWord seems to be a promising game that can be used by language learners.

**Table 1. Evaluation of Scrabble, Taboo, and VocaWord**

<b>EVALUATIVE CHECKLIST FOR FLT SOFTWARE</b>			
<i>Mark: If comprises and/or includes: Yes = Y and If does not comprise and/or include: No = N</i>			
<b>Intended Users</b>	<b>Scrabble</b>	<b>Taboo</b>	<b>VocaWord</b>
<i>Age</i>			
1- children	Y	Y	Y
2- teenagers	Y	Y	Y
3- adults	Y	Y	Y
<i>Proficiency level</i>			
4- beginner	Y	N	Y
5- intermediate	Y	Y	Y
6- advanced	Y	Y	Y
<b>Language Learning Scope</b>			
<i>Skill</i>			
7- grammar	N	Y	N
8- reading	Y	N	Y

9- writing	Y	N	Y
10- listening	N	Y	Y
11- speaking	N	Y	Y
<i>Acquisition</i>			
12- structure	N	Y	N
13- vocabulary	Y	N	Y
14- spelling	Y	N	Y
15- pronunciation	N	Y	Y
16- fluency	N	Y	N
<i>Content</i>			
17- authentic	Y	Y	Y
18- creating reinforcement	Y	Y	Y
<b>Practicality</b>			
<i>Supportive resources</i>			
19- dictionary	N	N	Y
20- visual	Y	N	Y
21- audio	N	N	Y
22- video	N	N	N
23- exercises	N	N	Y
<b>Device Requirement</b>			
<i>Hardware</i>			
24- computer	Y	N	Y
25- CD/DVD ROM	N	N	N
26- speakers	N	N	Y
27- microphone	N	N	N
28- additional hardware	N	N	N
<i>Software</i>			
29- operating system	Y	N	Y
30- internet connection	Y	N	Y
31- additional software	N	N	N
<b>Y = YES N = NO</b>	<b>16Y15N</b>	<b>13Y18N</b>	<b>23Y8N</b>

So, it is possible to conclude that while on the one hand, developing foreign language learning software that will meet all criteria of the evaluative checklist would be the most desired approach; on the other hand it is most possible that VocaWord will meet the specific criteria of the *vocabulary games checklist* as long as it is continually improved. Nevertheless, it is a fact that there is much room for material development in the field of foreign languages.

## **DISCUSSION**

### **The Potential of the Proposed Evaluative Checklist and VocaWord as Supportive Materials in FLT**

According to the findings, all three games are seen as beneficial more or less by the consultants. Nonetheless, when “No” answers appointed for each game be observed (15 for Scrabble, 18 for Taboo, and 8 for VocaWord), one might notice that the weakness of VocaWord is almost half compared to other two games. This result may not necessarily claim that the game can be twice more fun for students, but at least that it deserves trying it as supportive material in the language classes.

In addition, there is need for more vocabulary learning software that can be used by language learners. The second part of the evaluative checklist (Appendix 3) might assist in material development that specifically focuses on vocabulary. That is to say, good vocabulary learning software needs to offer a dictionary embedded in the program and/or let individuals create their own glosses. Also, learners should be able to choose what type of words to study (e.g. nouns, verbs, adjectives, adverbs). There should be an option to activate or deactivate some words. For instance, students might want to study just the first 2000 most frequent words. Additionally, it would be great if teachers or students had the option to group words according to specific topic or interest. Besides these, students should have the chance to turn on different types of activities and exercises. Students should be able to find the synonyms, antonyms of the words, and listen to their pronunciation. It would be also very nice if some video and other visual options be enhanced in the software. So, learners will be exposed to authentic material with lots of options of their choice. That kind of game for sure can help learners not only speed their learning but also motivate them to keep studying.

VocaWord is a promising game which needs to be improved rapidly. More content regarding all aspects of language learning might be added, such as reading, writing, and speaking sessions, or testing tools. The basic limitation of the game is that it primarily focuses on vocabulary learning which makes it quite a simple design. Nevertheless, the more complex a game is the harder it is to apply and use. System requirements of a very complex game are usually very high, and thus, very few people can afford it. For this reason, designing a couple of small separate games might be better than putting them all together in a single program.

### **Additional Software**

In addition to VocaWord, VocaPolis will be presented as a pack where players can continue with the game at a different stage and dimension. VocaPolis is a program that will enable learners to go beyond just words and make sentences from the words they have already made in VocaWord. At this stage they will be given words rather than letters. The cards will be rearranged so that different aspects of FL like grammar, structure, and so on will be practised.

As it is stated in this paper, games can provide a great deal from the beginning to a much higher level, and let learners acquire foreign languages while enjoying themselves and challenging their own ability and knowledge, or brain power and memory. Therefore, introducing students to the alphabet as an initial step and taking them deeper into any foreign language is possible if more effort and interest are put into the improvement of materials development in FLT.

Giving the opportunity to people to learn a foreign language in a relatively easier or less pain-giving way is important, especially at this age of globalisation. The nations are connected so closely to each other that learning the languages of other societies is important. However, people are always in a hurry, having very little time for things outside work. Therefore, why not give them electronic game toys that they can play while travelling, eating something, or even when resting in the bathroom, which will help them learn something new related to a foreign language?

## **CONCLUSION**

Playing games such as VocaWord and VocaPolis might be time consuming, and the advantages or total gain might be discussed. Nevertheless, any kind of language training program is open to discussion regarding its effect. Therefore, the effect and efficiency of game classrooms might be compared with traditional classrooms, but even if nothing much is revealed, it is certain that game playing people would be happier.

To sum up, there is more need for empirical data related to the use and effect of games in FL teaching. Therefore, more games, both quantitatively and qualitatively, addressing different aspects of language learning can be developed once it is understood that games are really very efficient tools.

In this article VocaWord has been presented as a promising game which can grab the interest of learners, and help them acquire more words in a shorter time. Nevertheless, there is a need for more efficient materials development in the FL field. Expanding and improving the current language web sites, electronic dictionaries, software, and all available online material may attract attention from larger parties and accelerate learning of foreign languages. The game production industry might be willing to develop more beneficial games that would serve different aspects of teaching and learning.

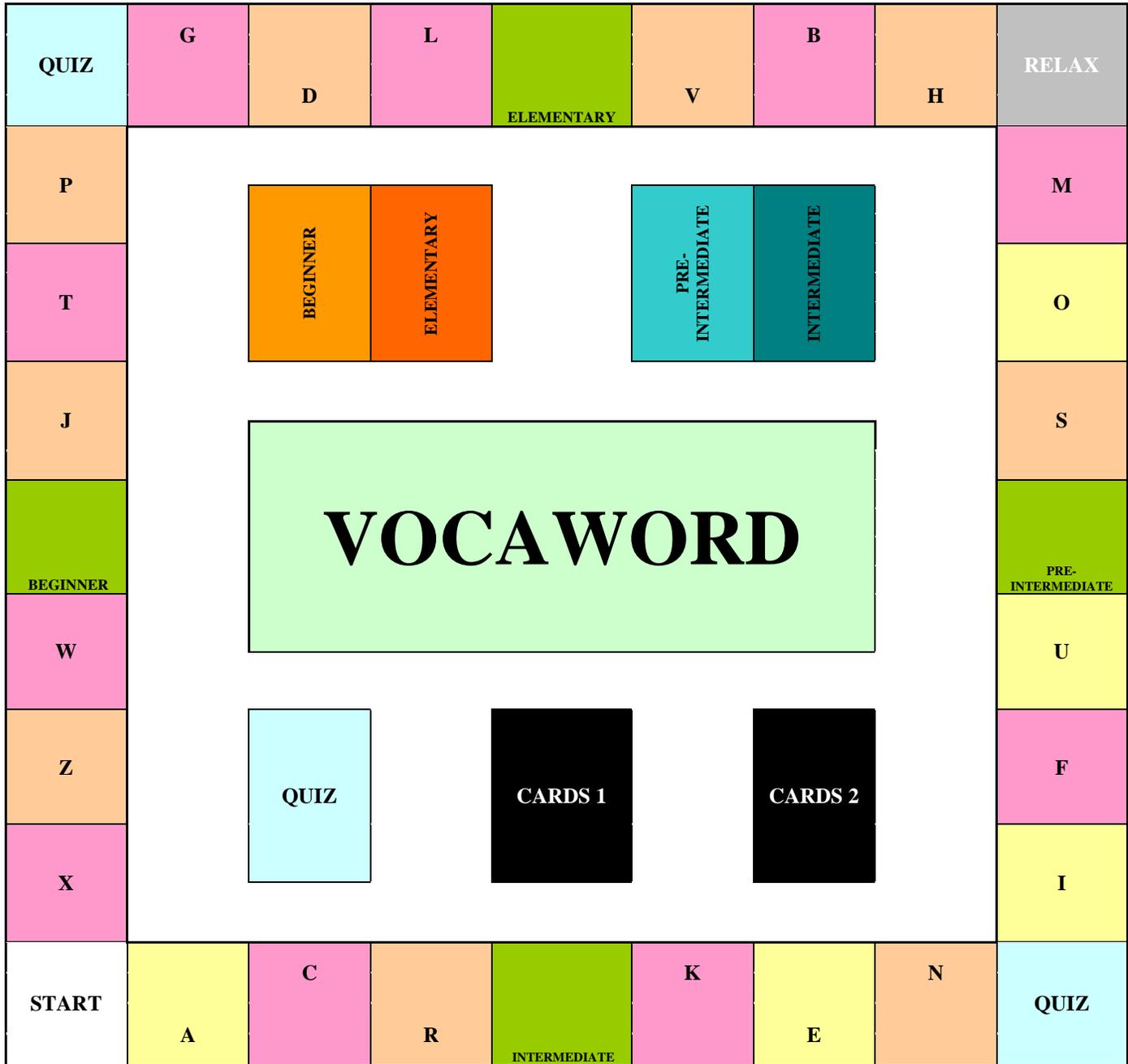
New methods and techniques in FL education can be hypothesised with the help of computer programs and extensive software development. Comprehensive studies can bring interesting, exciting and various ideas that may take the field to a different level and dimension, which will meet the competitive features of the age at the stage of both teaching and learning.

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## Appendix 1



## Appendix 2

### GENERAL EVALUATIVE CHECKLIST FOR FLT SOFTWARE

#### Intended Users

##### Age

- children
- teenagers
- adults

##### Proficiency level

- beginner
- intermediate
- advanced

#### Language Learning Scope

##### Skill

- grammar
- reading
- writing
- listening
- speaking

##### Acquisition

- structure
- vocabulary
- spelling
- pronunciation
- fluency

##### Content

- authentic
- creating reinforcement

#### Practicality

##### Supportive resources

- dictionary
- visual
- audio
- video
- exercises

#### Device Requirement

##### Hardware

- computer
- CD/DVD ROM
- speakers
- microphone
- additional hardware

##### Software

- operating system
- internet connection
- additional software

## Appendix 3

### Evaluative Checklist for (Vocabulary) Game Software

#### Input for vocabulary learning

*basis for the choice of vocabulary*

- glossary
- word type selection (noun, adjective, verb, adverb)

*vocabulary appropriate for the intended users in terms of*

- frequency
- interest
- topic

#### Vocabulary learning activities

- challenging and enjoyable activities
- option to choose which word to learn
- option to set time and/or point limit
- option to choose activity type

*vocabulary learning activities offer*

- repetition, spelling of the words, pairing with native language equivalents
- pairing the words with their target language synonyms
- pairing the words with their target language antonyms
- listening to the pronunciation of the words

*production activities*

- forming words from letters
- using the words in a sentence

#### Vocabulary learning tools

- vocabulary search engine

*glosses provided*

- monolingual
- bilingual
- hint-type
- examples of usage
- visual
- audio
- video