Hot Potatoes: The Merits and Demerits

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Abstract—**The present study was firstly meant to review and study the main functions and applications of the *Hot Potatoes* program and further to identify its main features in terms of the development of various types of language tests and exercises. Secondly the study identified a number of deficiencies both in connection with the applications and the modality of the exercises it produces. The analysis revealed that although the program offers facility in creating different types of exercises together with teacher's feedback that can be posted online for the ease of access, it is limited in some important areas such as providing interactive activities and synchronous feedback for the learners. Moreover, it was found that the efficiency and usefulness of this program to a great extent depends on the creativity and skills of the teacher who uses the program to create tests. Similarly, the language contents that the teacher uses can have a great influence on the effectiveness of the exercises developed by Hot Potatoes. Therefore, the program by itself gives no advantage in helping learners with their language learning practice and exposure, but only acts as a learning tool.**

Index Terms—**Hot Potatoes, teacher's role, online exercises**

I. INTRODUCTION

Today the growing popularity of e-learning and computer based education has by far manipulated the way pupils learn, teachers teach and testers assess. Paper and pencil tests are vanishing from the face of modernized academic education rapidly and, instead computer programs and softwares are replacing the traditional means of learning. For example, Davis (1997) emphasizes the importance of collaborative approaches in encouraging the use of technology in teacher training. In this regard, computer assisted language learning and teaching (CALL & CALT) has also been influenced by the development of new programs and multimedia. Amongst the very many programs available online *Hot Potatoes* is quite useful and practical.

Hot Potatoes has been developed by the Research and Development team at the *University of Victoria,* Humanities Computing and Media Centre. It has been available as free software since 2009, and has been designed by the TESL department in this university. In this the department, they try to test and create the best ESL teaching techniques and practices and use them in developing interactive learning programs which are mostly computer or internet based. As reported by the company's official web site, the commercial aspects of the software are given to and handled by Half-Baked Software Inc. This program is among the other very popular English language softwares such as MOO, and MOODLE.

The first version of Hot Potatoes (version 2.0) was released in September 1998, at the *EuroCALL* conference in Leuven, Belgium. The Hot Potatoes software suite comprises five distinct applications each providing the possibility to create exercises online and offline. The applications used in this program are namely: *JCloze*, *JCross*, *JMatch*, *JMix* and *JQuiz*. A sixth application, called the *Masher* has also been added recently; this allows the user to mix and combine all the Hot Potatoes exercises into one whole unit.

The latest version of this program came out in early 2004 by Half-Baked software company; i.e. version 6 of Hot Potatoes. The biggest merit of using Hot Potatoes 6 as compared to its other previous versions is that the JQZ program is currently used to make multiple-choice as well as short answer tests. In other words, the user is now able to mix both question types in a single quiz. In practice, a quiz can contain an unlimited number of questions. In addition, it is possible to use a photo attached to the question we intend to ask in order to demonstrate how to post a quiz which contains several files. According to its official website, JBC quizzes can contain rich multimedia - sound files as well as image files can be incorporated into questions and answers, for example.

According to Nedeva et al. (2010) overcoming the disadvantages of e-learning for English language training is reached by specialized technologies. In this regard, Hot Potatoes is not part of MOODLE but VLE possesses the required instruments to allow for suitable exercises to be imported and integrated. Furthermore, as stated by the producer, Hot Potatoes creates an instrumental work environment for Windows users and it includes six major programs which was mentioned above. These applications are meant to be used in creating interactive exercises, but to what extent they achieve this end, is an important issue. They are particularly designed for the purpose of foreign language learning and can produce a wide range of exercises such as multiple-choice, short-answer, jumbled-sentence, crossword, matching/ ordering and gap-fill exercises.

A. Functions and Applications

The main function of the *Hot Potatoes,* according to its manual published in its official website, is that it enables the users to develop interactive language exercises on the web that can be accessed easily through any computer and browsing software connected to the internet. HTML and JavaScript are used in creating the exercises of this program in order to make them interactive, but it is not essential for the users to know anything about these languages in order to work with the programs. Teachers and other language experts will only have to enter the data for their exercises and press a button. Then, the program will automatically develop the Web pages for them, and then it is possible to upload them to your personal server.

Nathalie Cazaux, an expert reviewer of the program from Institute of Technology in Blanchardstown, has briefly described and analyzed the different functions and applications of the program in the following way:

1) JBC

This section of the program is responsible for creating multiple choice answer quizzes of the sort that will be immediately recognizable to students. Here it is possible to have a written text, with a time constrained reading test, and questions can have maximum four answers. Additionally, the feedback guiding the learners towards the right answer could be incorporated. However, if nothing is typed here, a default message saying "try again" will pop up.

2) JQuiz

This application develops short answer quizzes. Here, the learner types the answer in the text-field and receives the feedback from the computer. Like the previous section, maximum four possible correct answers are available, assuming that the teacher has included them. Here, according to Cazaux's review, Holmes and Arneil, who are among the main creators of the program, did not approve of a "one click right/wrong" interface (Holmes & Arneil, 1999). Therefore, they developed a facility in the program to provide more expanded feedback for the users. Afterwards, the computer points out what part of your answer is correct, which in turn involves students more effectively. This is especially helpful for spelling trials and is more subtle than the right or wrong programs.

3) JMix

This part of the program makes jumbled sentence exercises which, in nature, resemble those that can be made with paper and scissors. The biggest plus with this program is that the teachers are able to include different and all combinations of answers, therefore, the learner does not encounter correct suggestions which are not accepted by the computer.

4) JCross

This program can produce small sized crossword puzzles with 20x20 letters in size. The clues can be entered either in word-form or in the form of pictures.

5) JMatch

This section can further generate both listing exercises and matching exercises. For instance, linking countries and capital cities or beginning and ending of sentences and putting frequency adverbs in the correct order. As for JCross, photos can be placed instead of words.

6) JCloze

Finally this application creates gap-filling exercises. In this part, the java-script searches for parts of correct answers, but only one true answer for each gap is accepted and the feedback does not include much detail in this section.

7) The Masher.

According to the software's manual, the Masher, which is probably the most useful feature of this program, is a tool designed to help users with larger sites containing many different Hot Potatoes exercises. The main application of this feature is to collect a large number of different Hot Potatoes exercises in one test format. Further, since it mixes the exercises, it automatically sets the URLs of the next exercise navigation buttons, in order for the learners to easily go through the exercises in the given order. Beside this, colors can be set and arranged the way you wish and you can also select which navigation buttons to display on the screen.

Furthermore, she added that for the learners, titles and instructions are constantly displayed. It is possible to have them either in the first or second language. The color of the text as well as the font and its size could also be altered from the main page. The program further makes it possible for users to include pictures if necessary. And the default settings offer sufficient information to the student which means no change in the setting is necessary.

The available reviews of the different sections and applications of this program are almost all very akin, uniform and objective. They all conform to what has been published in the official web site of Hot Potatoes software with insignificant variations.

B. Mayer's Theory of Multimedia Learning

The theory of multimedia learning has been developed by Richard E. Mayer and his colleagues. This theory has helped improve the cognitive model of learning through the mediation of other forms of language modality. According to this theory individuals have a tendency to learn more efficiently and rapidly when they make use of picture and visuals along with words rather than resorting to mere words in making sense of the language (Mayer, 2005a). Furthermore, in another study Mayer (2005b) asserted that most research concurs that multimedia is defined as the mixture of *text* and *picture* and maintained that multimedia learning takes place when we use both of these media to

form mental representations of the language components. In developing the cognitive theory of multimedia learning (CTML) other cognitive theories such as Baddeley's model of *working memory* (1986), Paivio's *dual coding theory* (1986), and Sweller's Theory of Cognitive Load (1988), had been very influential as they all fall into the category of information processing model of learning.

In practice, this theory laid the foundation for the development and generation of the many language teaching and learning softwares. The use of both auditory and visual components in these programs was but an attempt to increase the level of learning and facilitate the teaching processes through the combination of all language modalities, i.e. written, oral and pictorial. Drawing on this theory, the program developers have tried to mingle more media in the form of picture and text to improve the cognitive processes of mind in processing the new information and integrating them with the old mental schema. Here, CTML provides us with a practical framework to analyze Hot Potatoes from a new perspective and see to what extent the program is based on a rigorous theory of cognitive learning.

C. Research Questions

The present study tries to address the following two questions:
1. To what extent is *Hot Potatoes* effective in providing students with appropriate exercises and tests?
2. How important is the role of teachers in using this program?

II. THE RESULTS AND ANALYSIS

The positive and negative aspects of the program

As for the benefits, firstly there is the fact that the program provides the learners with quick and immediate feedback to every single question. Moreover, learners are able to see or check and study the test items prior to taking the test, and further, learners are given the possibility to go online and check the HTML sources of their quizzes and access the right answers for themselves. This in turn, allows for more autonomy and fosters the heuristic abilities on the part of students.

Additionally, the program in not limited to one particular language and can function similarly for all languages using Latin characters; likewise the interface of the program can be translated into other languages as well, and thereby making it usable by language teachers across a variety of languages.

A further advantage is that any language instructor is able to post a Hot Potatoes file and publish the tests or send them to students and obtain the final results on the web in a way that is safe and reliable. Using Hot Potatoes 6 gives you the possibility to post JQZ quizzes to any online module created for this purpose like a class weblog.

In spite of some minor limitations, the ability to issue Hot Potatoes exams is considered quite useful within an *online course*. In this way the teacher creates and posts the exam, the students then take the exam and finally the teacher receives the files and returns the results at his convenience. Interestingly, by using HP it is also possible to include audio-visual files on the web; this facility is particularly desirable for the development of educational contents and materials since the exercises will be more interesting and fun to students.

According to a more thorough review by Winke and MacGregor (2001), Hot Potatoes can be evaluated according to the following three aspects. Firstly, trying to figure out whether or not the program allows for the creation of language learning exercises that are consistent with the theories of second language acquisition. Secondly, understanding the extent to which the program is user friendly, and finally, asking whether the program is desirable and applicable for language testing.

Moreover, in the same study, they held that the use of technology by EFL or ESL teachers has numerous merits. Firstly, the amount of exposure to and the potential interaction with the target language forms outside the context of classroom, will increase. Hot Potatoes creates exercises which may be of useful technological use when employed by students remotely as supplementary classroom work. In addition, the exercises can be shared with other teachers throughout the world, provided that they are connected to the internet (Winke & MacGregor, 2001).

According to other experts of the field (Cook, 1996; Kottler & Kottler, 2002) generally, Hot Potatoes is easy to use and does not need technical knowledge on the part of the users. By combining pictures, sounds and other links teachers have the ability to create their own variety of interactive activities and can offer help and feedback to the learners more easily. As a result of these facilities, an attractive learning atmosphere is created in classrooms, students can work on their own pace without much stress, they do not need much support by the teacher, and there are plenty of of exercises which are necessary for each learning context in order to satisfy all learner styles– multiple intelligences (Gardner 1983).

It is however, clearly evident that the usefulness of the tasks and exercises, to a great extent, depends on how the teachers make use of the program. Findings from a large body of research have shown that in a task-based instruction model, students benefit from being engaged in tasks with a primary focus on content and meaning rather than language (Long, 1996). Moreover, Skehan (1998) identified some of the common features of good task-based activities; e.g. they all focus on meaning, provide a communication problem to solve, have a relationship to real-world activities, and are not concerned with language display (cited in Winke & MacGregor, 2001). In this vein, Hot Potatoes exercises could create the same task-based model of exercises; meaning that if the program is improved so that a larger variety of tasks could be generated it will be of greater value to both the teachers and learners

However, from a different perspective, Winke and MacGregor (2001) observed that a negative aspect of Hot Potatoes is that it mostly makes form-focused activities in which the degree of "interaction" is limited to interaction between the

user and the predetermined feedback created by the program developer. Such activities, according to them, cannot be considered interactive in its truest sense, and is only a little more advantageous than the online traditional grammar activities. Therefore, they concluded that Hot Potatoes exercises can improve SLA in essence, but to what extent this happens relies largely on the materials used by the teacher in the exercises. They further maintained that Hot Potatoes acts like a tool, and thus like all other useful instruments, its value depends on the knowledge and creative skills of the users. From their viewpoint, Hot Potatoes is not merely a testing software, and should not be used this way. In contrast, the Hot Potatoes program gives teachers flexible, easy-to-use modules for creating web-based language exercises that students can engage in while also getting informative feedback that would guide them towards right answers.

Moreover, Baklavas et al. (1999) pointed out that the biggest drawback of Hot Potatoes concerns the statistical analysis and the security of the tests. According to their review, the program does not include any kind of access control and that it should only be used in unofficial testing contexts and student self-evaluation practices. Thus, Hot potatoes is considered of a lower standard than its counterparts such as Cyber Exam.

Further in this respect, Somekh and Davis (1997) observed that HP or similar programs make use of a type of technology which has the following characteristics:

a) facilitates extensive access to guidance in acceptable methodology. It does so by allowing independent access by students outside of formal instructional time.

b) promotes and supports a model of collaborative professional development, by presenting a uniform set of presentation templates which will encourage group work; and also allows for the creativity and individuality of content.

c) expands the goal of the instructor, to inculcate proper and desirable teaching practices, by the rigid nature of the given L2 methodology.

Similarly, Cazaux maintained that using these programs increases the exposure to target language, creates more fun and improve motivation. However, it is clearly evident that the biggest drawback of this software is it deficiency in providing synchronous interaction between teacher and learner. Hot Potatoes like many other programs of this nature acts more like a tool, and thus it can only reach all its potentials once it is being used innovatively by a creative teachers.

Thus in this sense, it can be clearly deduced that Hot Potatoes, like many other similar CALL based programs is by far advantageous for its users both in terms of providing exposure to language and promoting autonomy on the part of learners. What is also important here is that even though the software was produced for the language classroom use it can also be employed for a variety of subjects. Moreover, activities can be uploaded and be shared with teachers all around the world.

III. CONCLUSIONS AND IMPLICATIONS

The present study aimed primarily at addressing two main questions; first the efficiency of the program in providing suitable exercises and second the importance of teacher's role in using this software. Having used and studied the program carefully I came to terms with the fact that it offers user-friendly features which in turn renders test making and test taking easier and more accessible. Teachers can provide their students with more comprehensive feedback while learners can benefit from online access to their teachers' exams any time during the day. However, the program seems to be limited to only options and applications which produce tests and exercises and is not meant to teach the language directly and interactively.

As with the types of questions, the authors might want to extend the variety of question types that the program generates, as it is only limited to creating multiple choice, matching, cloze, crosswords and mixing words. Other question formats such as table completion, diagram and classification can also add to the value and practicality of HP. In this way, providing exercises in the form of *tasks* ,in which the negotiation of meaning get the primary focus, could be improved and extended so that teachers can provide more pedagogical tasks for their pupils.

Finally, the program's addressees are only teachers who can develop and produce different types of exercises and activities for their students at the level of class; meaning that the program by itself cannot be of any value to language learners and the presence of a language expert is always necessary. Personally I believe that if the program provided facilities with which learners could practice and test their language proficiency independent of a teacher either online or in class, it would be of greater advantage to the field of CALL and CALT. It would probably be a good idea if the future editions of the program focused on an additional possibility of learners' independent use of this software.

Regarding the implications, the program could be quite beneficial to all language teachers and supervisors who intend to facilitate and improve the processes of assessment and evaluation and language practice in general. School and university authorities can develop projects in order to foster and encourage the use of these types of CALL-based softwares and further improve the quality of language practices and exercises in their classes. By the same token, these programs could be efficiently used to plan and organize the homework and assignments of the students more effectively, while the teacher's feedback is available anytime and anywhere for the learners.

APPENDIX A. A BRIEF SUMMARY OF HOT POTATOES BY WINKE AND MACGREGOR (2001)

Title	*Hot Potatoes,* Version 5
Authors	Stewart Arneil, Martin Holmes, and Hilary Street
Platforms	Windows and Macintosh
Minimum Software Requirements	Netscape Navigator or MS Internet Explorer versions 4 or above, with JavaScript enabled. Some modules, JMix and JMatch, use DHTML and require version 5+ browsers.
Publishers	Half-Baked Software, Inc. http://web.uvic.ca/hrd/hotpot
Support Offered	E-mail support direct from author, Martin Holmes, at mholmes@uvic.ca. The *Hot Potatoes* Web site posts frequently asked questions and has a bulletin board where questions can be posted to be answered by users.
Target Language	Any Roman character set language (program supports the use of accented characters)
Target Audience	Language teachers
Price	Free for non-profit individuals or educational institutions, with the condition that materials produced are freely available to anyone via the Web. Otherwise, license starts with 1 user for $100 US. Large publication license: US $350.

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