

## The Effect Of Jumble Computer Software On Students' Mastery Of English Expressions, Learning Motivational Intensity And Perceived Learning At SMPN 23 Poleang Utara

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### ABSTRACT

The research is aimed to: 1) find out whether there is significant effect of Jumble computer software on students' mastery of English expression; 2) find out whether there is significant effect of Jumble computer software on students' learning motivational intensity; 3) find out whether there is significant effect of jumble computer software on students' perceived learning. The study employed quantitative approach through quasi experimental design. Total of sample in this study were 60 students consisted of two classes and which is selected through total sampling. The instruments used in this study were test and questionnaire. The result of data analysis revealed several conclusions. First, there is significant gain scores different between students taught using Jumble computer software and those who do not ( $p\text{-value} = 0.000 \leq 0.05$ ). Second, students' learning motivation after taught using Jumble Computer Software is placed in high category. It is maintained by the result of one sample t-test that students 'learning motivation is placed in high category ( $p\text{-value} = 0.002 \leq 0.05$ ). Last, students 'perceived learning after taught using Jumble Computer Software is placed in high category. It is maintained by the result of one sample t-test that students 'learning motivation is placed in high category ( $p\text{-value} = 0.001 \leq 0.05$ ). The pedagogical implications are

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that this software can be used as a competitive game in the context of teaching English expressions as well as being able to find out students' ability in mastering English expressions using this software.

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## **1. INTRODUCTION**

It is undebatable true that our life is considerably influenced by the era of information technology, and technology plays an important role in man's development. Due to this fact, it is crucial to take advantage of the modern technological facility in aiding the task of English language education. Students attempting to learn English as a foreign language need further language support. They need to practice in hearing language, reading language, speaking language, and writing language in order to enhance their experience and skills. To do such tasks, they are in need of using various tools which can help them learn the language easily and effectively.

The term 'new technology' includes communication skills for language teaching in which the personal computer plays a central role (Davies & Hewer, 2012). There are, however, other technological solutions that can be utilized in language learning beside computers. Each technological tool has its specific benefits and application with one of the four language parts (speaking, listening, reading, and writing). However, in order to use these techniques successfully, the ELL (English Language Learning) students should be familiar with using computers and internet, and capable of interacting with these techniques. The effect of technology has become far-reaching in teaching and learning the language in addition to the instructor's role. In other words, the role of the instructor together with the role of the technology can lead to advanced learning results (Sharma, 2009).

Technology and English language education are related to each other (Singhal, 1997). During the sixties and seventies of the last century English language learning laboratories were being used in various educational institutions. The traditional language laboratory was consisted of a number of small cabinets, provided with a cassette deck, a microphone and a headphone for each one. Teachers use a central control panel to monitor their students' interactions. The main advantage of that type of technology was that verbal behavior of students would assist them to quickly learn the second language. The students' skills can be enhanced by encountering more practical drill problems. Although the language laboratory is a forward step in linking technology and language education, this technique was actually tedious and boring for learners (Singhal, 1997). Also, there were minimal interactions between the teacher and his students.

Computer-Assisted Language Learning (CALL) software has given another teaching tool for second language education. The use of computers in English language classroom is useful for both teachers, and learners. Nowadays, there are numerous software application programs available such as vocabulary, grammar and pronunciation programs, spelling check utilities, electronic workbooks, reading and writing programs, and different learning packages to assist instructors in creating tutorial exercises to enhance their English language courses.

The last two decades have witnessed a global proliferation of information and communication technologies (ICT) into the field of education. The worldwide adoption of ICT into education has often been promised on the potential of the new technological tools to change an outmoded educational system completely, better prepare students for the information era, and / or accelerate national development endeavors. In developing countries, including Indonesia, the above basis of hope have generated a whole set of intense speculations about the necessity of educational reforms that will furnish the new tools (Peng, 2010).

Traditional methods to language teaching and learning have been challenged by new and innovative approaches based on the latest advances in computer and Internet technology. The vast available means and chances that computers and Internet provide have brought about new tools, approaches, and strategies in language teaching and learning. The success of any initiatives to adopt technology in an educational program depends greatly upon the assistance and attitudes of teachers involved. It has been suggested that if teachers believed or perceived computers not to be fulfilling their own or their students' needs, they are likely to resist any attempts to introduce technology into their teaching and learning (Askar&Umay, 2001). Computers are remarkably widespread, influencing many aspects of our social and work lives, as well as many of our leisure activities. As more tasks involve human computer interaction, computer skills and knowledge have become more positively correlated with both occupational and personal success. Therefore, as we move into a technology based society, it is significant that students' classroom experiences with technology be equitable and unbiased for them. In most cases, the teacher is key to effective implementation of the use of computers in the educational system and given that teachers have enormous potential to impose beliefs and values to students, it is of great weight to understand the biases and stereotypes that teachers may hold about the use of computers and the factors that act as facilitators to teachers' positive computer usage.

Recent years have seen an avid interest in using computers for language teaching and learning. A decade ago, the use of computers in the language classroom was focused only on a small number of specialists. However, with the advancement of multimedia computing and the Internet, the role of computers in language instruction has now become an important issue confronting large numbers of language teachers throughout the world, especially the computer-assisted language learning (CALL). The acronym CALL will be used as a short-cut term, for sake of brevity and convenience, which includes computer-assisted instruction (CAI), computer-assisted language teaching (CALT), computer-assisted language testing (CALT), as well as e-learning (Allum : 2002).

Computers have been used for language teaching since the 1960s. The history of CALL can be roughly divided into three main stages: Structural /behavioristic CALL, communicative CALL, and integrative CALL (Warschauer, 2000). Each stage corresponds to a certain level of technology as well as a certain pedagogical approach. Table 1 below shows the three stages of CALL.

Structural /behavioristic CALL was conceived in the 1950s and implemented in the 1960s and 1970s. Informed by the behaviorist learning model, this mode of CALL featured repetitive language drills, referred to as drill-and-practice. The best-

known tutorial system, PLATO, ran on its own special hardware consisting of a central computer and terminals and featured extensive drills, grammatical explanations, and translation tests at various intervals (Ahmad, Corbett, Rogers, & Sussex, 1985).

Communicative CALL emerged in the late 1970s and early 1980s, at the same time that behavioristic approaches to language teaching were being rejected at both the theoretical and pedagogical level, and when new personal computers were creating greater possibilities for individual work. Communicative CALL stressed that computer-based activities should focus more on using forms than on the forms themselves, teach grammar implicitly rather than explicitly, allow and encourage students to generate original utterances rather than just manipulate prefabricated language, and use the target language predominantly or even exclusively (Jones & Fortescue, 1987; Phillips, 1987). Popular CALL software developed in this period included text reconstruction programs (which allowed students working alone or in groups to rearrange words and texts to discover patterns of language and meaning) and simulations (which stimulated discussion and discovery among students working in pairs or groups).

Integrative CALL shifts to a perspective which attempts both to integrate various skills (e.g., listening, speaking, reading, and writing) and also integrate technology more fully into the language learning process. In integrative approaches, students learn to use a variety of technological tools as an ongoing process of language learning and use, rather than visiting the computer lab on a once a week basis for isolated exercises.

In a nutshell, the development of science and technology, especially in information and communication technology is very fast. The development of it is applied in teaching activities in order to get a better result. Teaching is not only about paper, white/black board, marker, map, and picture. Teaching is about transferring knowledge to the students. In order to get a good result, a teacher should use the effective teaching aid. A teaching aid is a tool used by teachers, facilitators, or tutors to help learners improve their language skills, illustrate or reinforce a skill, fact, or idea, and relieve anxiety, fear, or boredom, since many teaching aids are like games. There are many kinds of teaching aids such as : chalkboard or whiteboard, map, overhead projector, computer, charts, calendars, flash chard, posters, slides, flip chart, etc, but the researcher believes that the best one among them is a computer.

In this study the researcher attempts to make use of the advanced technology, especially the information and communication technology in order to teach English expressions to students. The reason is that teaching (idiomatic) expressions tends to be more challenging and teachers need more alternative techniques to avoid students' boredom and to facilitate more comprehension. So far, at SMPN 23 Poleang Utara teachers just perform common exercises in the form of cloze test or pairing the expressions with the appropriate meanings when they teach English expressions. These techniques seem to be a common practice, and hence they significantly dampen students' enthusiasm to learn more English expressions. Given these chronic and persistent problems, the researcher then decides to try to come up with an alternative solution, that is, teaching English expressions using a

computer software called Jumble which is published by AHA Software Inc. This technique is expected to be able to solve the above problems, especially concerning students' boredom and their mastery of English expressions.

The study was conducted in order to answer the following questions:

1. Is there any significant effect of jumble computer software on students' mastery of English expression?
2. Is there any significant effect of jumble computer software on students' learning motivational intensity?
3. Is there any significant effect of jumble computer software on students' perceived learning?

## **2. LITERATURE REVIEW**

### **2.1. Motivational Intensity And Language Learning**

In the context of language learning, motivation encompasses demonstrable learning activity accompanied by the attempts to achieve the goal of learning the language. In the absence of these attempts, learning will remain a wish or desire. This process of converting the desire into reality is defined as motivational intensity (Gardner, 1985).

Krashen (1976) contended that the success in learning a second language entails more than long-term outlook; instead active engagement is indispensable. Pintrich and Schunk (1996) stated that persistence is a common standard of motivation and Zhu (2002) claimed that persistence is essential for success in learning a foreign language and further elaborated that the learner should be fearless and gallant and determined in order to be successful. In an earlier study, Zhang (2000) stated that confidence supports determination and once confidence is established active participation in learning a foreign language will take place and persistence will be followed by successful attainment.

Deci and Ryan (1985), in presenting the self-determination theory, stated that a student displays intrinsic motivation when involvement in a task takes place chiefly because it is a gratifying or fulfilling activity. 'Engagement' is said to be the intrinsic attraction a student shows as well as the dedication. Conversely, extrinsic motivation takes place when the student takes on a task to get an award or to elude punishment. For example, a student who works hard at school project because it is deemed to be interesting is regarded as being intrinsically motivated whereas a student who studies hard because of the expectation of a reward for attaining high grades is considered to be extrinsically motivated.

In delving deeply into motivational intensity, the different types of motivation are reflected upon. Gardner and Lambert (1959) and Gardner (1985) focussed on integrative motivation, evidently saying that it was a reliable indicator of learning success. Nevertheless, they did not look down on the significance of the attempt which equates to intensity. They think that integrative motivation to be the reciprocal action with and willingness to use the language being learnt. In other words, students are expected to go through intense communication with native speakers of the language.

## **2.2. Perceived Learning**

Lewis (2011) stated that perceived learning is the extent to which a certain level of knowledge attained on the new learning accepted by students. Ewell, Lovell, Dressler, and Jones (1994 : 23) said that "there is a considerable references concerned with establishing the validity of student self-reports about cognitive results". Additionally, Alavi, Marakas, and Yoo (2002 : 406) define perceived learning as "changes in the learner's perceptions of skill and knowledge level before and after the learning experience". To this degree, in a blended teacher education program, it is important to get to know about student teachers' learning reports because it gives teachers with a chance to make necessary improvements. These changes could be used to ensure the quality of the learning experience and also to improve the students' experience.

The term actual learning differentiates between real learning and perceived learning. Actual learning represents a change in knowledge identified by an austere measurement of learning. Sitzmann, Ely, Brown, and Bauer (2010) offer obliging support for the difference between actual learning and perceived learning constructs. In their meta-analysis of learning studies, they found a correlation between self-reported knowledge and actual knowledge. However, the correlation was zero between self-reported knowledge gain (perceived learning) and actual knowledge.

## **2.3. Software Design and Pedagogy of CALL.**

Above all, careful consideration must be given to pedagogy in designing CALL software, but publishers of CALL software tend to follow the latest trend, regardless of its desirability. Moreover, approaches to teaching foreign languages are constantly changing, dating back to grammar-translation, through the direct method, audio-lingualism and a variety of other approaches, to the more recent communicative approach and constructivism (Decoo, 2001).

Designing and creating CALL software is an extremely demanding task, calling upon a range of skills. Major CALL development projects are usually managed by a team of people:

- A subject specialist (also known as a content provider) – usually a language teacher – who is responsible for providing the content and pedagogical input. More than one subject specialist is required for larger CALL projects.
- A programmer who is familiar with the chosen programming language or authoring tool.
- A graphic designer, to produce pictures and icons, and to advise on fonts, colour, screen layout, etc.
- A professional photographer or, at the very least, a very good amateur photographer. Graphic designers often have a background in photography too.
- A sound engineer and a video technician will be required if the package is to contain substantial amounts of sound and video.
- An instructional designer. Developing a CALL package is more than just putting a text book into a computer. An instructional designer will probably have a background in cognitive psychology and media technology, and will

be able to advise the subject specialists in the team on the appropriate use of the chosen technology (Hubbard : 2003).

CALL inherently supports learner autonomy, the final of the eight conditions that Egbert et al. (2007) cite as "Conditions for Optimal Language Learning Environments". Learner autonomy places the learner firmly in control so that he or she "decides on learning goals" (Egbert et al., 2007, p. 8).

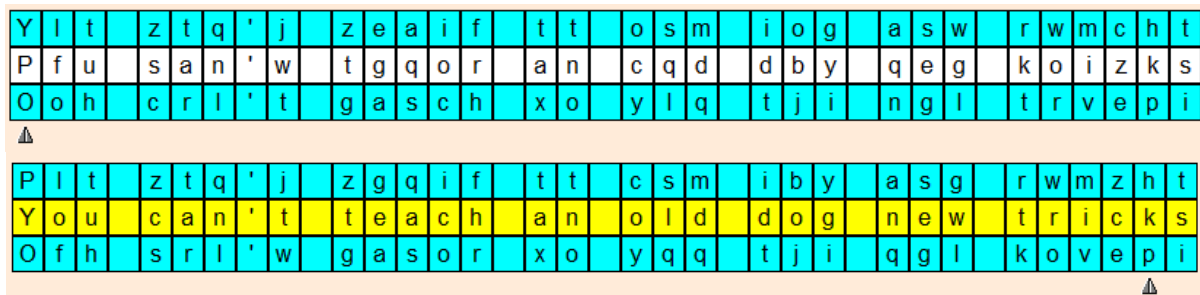
It is all too easy when designing CALL software to take the comfortable route and produce a set of multiple-choice and gap-filling exercises, using a simple authoring tool (Bangs 2011), but CALL is much more than this; Stepp-Greany (2002), for example, describes the creation and management of an environment incorporating a constructivist and whole language philosophy. According to constructivist theory, learners are active participants in tasks in which they "construct" new knowledge derived from their prior experience. Learners also assume responsibility for their learning, and the teacher is a facilitator rather than a purveyor of knowledge. Whole language theory embraces constructivism and postulates that language learning moves from the whole to the part, rather than building sub-skills to lead towards the higher abilities of comprehension, speaking, and writing. It also emphasizes that comprehending, speaking, reading, and writing skills are interrelated, reinforcing each other in complex ways. Language acquisition is, therefore, an active process in which the learner focuses on cues and meaning and makes intelligent guesses. Additional demands are placed upon teachers working in a technological environment incorporating constructivist and whole language theories. The development of teachers' professional skills must include new pedagogical as well as technical and management skills. Regarding the issue of teacher facilitation in such an environment, the teacher has a key role to play, but there could be a conflict between the aim to create an atmosphere for learner independence and the teacher's natural feelings of responsibility. In order to avoid learners' negative perceptions, Stepp-Greany points out that it is especially important for the teacher to continue to address their needs, especially those of low-ability learners.

#### **2.4. Jumble Software**

Jumble is a computer software in which students' task is to decode 'jumbled' English expressions and other English expressions. It was designed and written by Nick Sullivan. It is a freeware product of AHA! Software Inc. of Victoria, BC. Users have permission to copy Jumble, give it to their friends, hand it out to students, upload it to our local FTP site or BBS, and in general to use and redistribute it freely. Nevertheless, Jumble is a copyrighted product. We may not resell it or repackage it in any way without express permission from AHA! Software Inc. We may not tamper with or in any other way modify Jumble or its auxiliary files. (FamilyGames.com)

The phrase is displayed in the main window as a set of columns. Some columns are blank, representing the blank spaces between the words of the phrase to be found. Others may have punctuation symbols, which are often helpful in decoding the phrase. Most of the columns, though, offer several choices for the letter which should appear in that column. What students have to do is to pick the correct letter in each column, reconstructing the phrase.

The letters are arrayed in rows. Most have a light blue background, but one is white. This is the answer line. Students can finish a round of Jumble when they can read off the desired quotation in the answer line.



Thus, students just unjumble the white answer line by replacing each incorrect letter with one from the same column in the blue lines. To move a letter from one of the blue rows into the answer line, students can click on it with the mouse. The letter from the blue row will be exchanged with the one currently in the answer line. Students can also accomplish the same thing using the keyboard. Use the arrow keys to position the triangular cursor at the column they want to change, and then press the desired key.

Jumble can also be a competitive game. The Player box at the top left of the application window lets us specify the current player. We just click on the box and enter our initials to 'log in'. The application keeps track of the best score attained at each combination of difficulty level and time limit. The current player's initials are used to identify the owners of these top score honors. If we are playing competitively, we can see how many we can capture. It is also fun to turn off the time limit, forget about high scores, and play Jumble in a cooperative mood, with all players working together to find the hidden English expressions (FamilyGames.com).

### 3. METHODS

The study employed quantitative approach which used Quasi-Experiment Design to carry out the study. Total of samples involved in this study were 60 students which is selected through total sampling. The study employed three main instruments to obtain the data which is consisted to Grammar test in the form of English Expression, Learning Motivation Intensity questionnaire and Perceived Learning Questionnaire. The data analysis employed in this study was descriptive statistics, Independent Sample T-Test, and One Sample T-Test.

### 4. FINDINGS AND DISCUSSION

#### Gain Scores Difference between Students Using Jumble Computer Software and Those Who Do Not

The result of Independent Sample T-Test showed the difference of students who taught Jumble Computer Software and those who do not. Based on the table, it can be seen that the Levene's Test for Equality of Variances was 0.617. It was greater than  $\alpha = 0.05$  ( $0.617 > 0.05$ ), so it can be interpreted that the n-gain data was homogeny. In addition to that, the p-value in the column of sig (2-tailed) was 0.000.



It was less and equal than  $\alpha = 0.05$  ( $0.00 \leq 0.05$ ). Based on that testing result, it can be interpreted that the null hypothesis ( $H_0$ ) was rejected, and the alternative hypothesis ( $H_1$ ) was accepted. Thus, the independent t-test suggested that there is a significant difference between students who use Jumble Computer Software and those who do not. The result of independent t-test is presented in the following table:

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper	
Independent Test	Equal variances assumed	.252	.617	-10.9	58	.000	-.14833	.01353	-.17541	-.12125
	Equal variances not assumed			-10.9	57.8	.000	-.14833	.01353	-.17542	-.12125

Students' Learning Motivational Intensity after Taught Using Jumble Computer Software

Based on the analysis of mean score of students' learning motivational intensity, it is gathered that the mean score was 31.33, therefore the learning motivational intensity of students was placed in high category. Thus, the students learning motivational intensity was high in learning English expression after taught using Jumble Computer Software. The qualification table is shown below.

Interval	Qualification
25-26	Very Low
27-28	Low
29-30	Sufficiently High
31-32	High
33-34	Very High
35-36	Completely High

It was supported by the result of one sample t test analysis

One-Sample Test						
Test Value = 30						
	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Motivation	3.467	29	.002	1.33333	.5468	2.1199

It can be seen that the p-value was 0.002; it was less and equal than  $\alpha = 0.05$  ( $0.002 \leq 0.05$ ). Since the p-value was less and equal than  $\alpha = 0.05$ , it means that  $H_0$  was rejected and  $H_1$  was accepted; and it can be interpreted that Students' learning

motivational intensity is in high category after taught using Jumble Computer Software.

Students' Perceived Learning after Taught Using Jumble Computer Software

Based on the analysis of mean score of students' learning motivational intensity, it is gathered that the mean score was 33.53. Therefore, the perceived learning of students was placed in high category. Thus, the students' perceived learning was high learning English expression after taught using Jumble Computer Software. The qualification table is shown below.

Interval	Qualification
27-28	Very Low
29-30	Low
31-32	Sufficiently High
33-34	High
35-36	Very High
≥37	Completely High

It was supported by the result of one sample t test analysis,

One-Sample Test						
Test Value = 32						
		Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference		
t	Df			Lower	Upper	
PERCEIVED_	3.651	.001	1.53333	.6743	2.3923	
LEARNING						

Based on the above table it can be seen that the p-value was 0.001; it was less and equal than  $\alpha = 0.05$  ( $0.001 \leq 0.05$ ). Since the p-value was less and equal than  $\alpha = 0.05$ , it means that  $H_0$  was rejected and  $H_1$  was accepted; and it can be interpreted that Students' perceived learning is in sufficiently high category after taught using Jumble Computer Software.

**5. CONCLUSION**

Based on the above data analysis and discussions, it could be inferred that Jumble computer software has marked influence on students' mastery of English expressions. Based on the research questions, it could be concluded that:

1. There is significant differences in test gain scores between students using Jumble computer software and those who do not ( $p\text{-value} = 0.000 \leq 0.05$ ).
2. Students learning motivation after taught using Jumble Computer Software is placed in high category. It is maintained by the result of one sample t-test that students' learning motivation is placed in high category ( $p\text{-value} = 0.002 \leq 0.05$ ).
3. Students perceived learning after taught using Jumble Computer Software is placed in high category. It is maintained by the result of one sample t-test that

students' learning motivation is placed in high category ( $p\text{-value} = 0.001 \leq 0.05$ ).

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