

Citation: Hanif, B., Ghazi, S. R., & Sardaraz, K. (2023). Effect of Mnemonic Instructional Strategy (Keywords) on Students' Memory at Secondary School Level. *Global Educational Studies Review*, VIII(I), 534-540. [https://doi.org/10.31703/gesr.2023\(VIII-I\).47](https://doi.org/10.31703/gesr.2023(VIII-I).47)

Effect of Mnemonic Instructional Strategy (Keywords) on Students' Memory at Secondary School Level

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Abstract: *The present study investigated the effect of mnemonic instructional strategy (Keywords) on students' memory at the secondary school level. The students of Grade 10 were the population of this research. The sixty (60) students of GGHS Mewakhel, Bannu were the sample of this study. This was experimental research, so the pretest-posttest design was adopted. The Post-Experimental group (Keywords) showed better performance than the Post-Controlled group. It is recommended that students use a keyword strategy to learn phrasal verbs.*

Key Words: Mnemonic Strategy, Keywords, Memory, Instructional Strategy, Experiment

Introduction

Curiosity brings zeal to know the real nature of things in human beings. It needs thinking about the universe. Thinking is not possible without a brain. Memory can be enhanced by using different strategies. Without knowing the subject matter, a person can't get perfection in that subject. It is important to select the best strategy for learning information. Sometimes students do not perform well; it may not be because of their intellectual abilities. To enhance memory some memory strategies play a pivotal role. Mnemonic strategies (keywords, acronyms) help individuals to learn easily and remember (Asmawati, et al., [2015](#)). Vocabulary

is needed for learning a language (Hadjadj, [2015](#)).

Vocabulary is the basic component of learning a language (Thornbury, [2002](#)). Grammar and words have a pivotal function in learning a language (McCarthy & O'Dell, [1999](#)). Waring ([2002](#)) points out the difficulty of learners in gaining proficiency in a foreign language. Today's lesson may be forgotten by the learner tomorrow. He can understand the information provided to them but may be unable to remember it (Waring, 2002). There should be a need to make them aware of different strategies to learn vocabulary (Sagarra & Alba, [2006](#)). It is expected that grade nine and ten students know a lot of

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vocabulary (Bryant, Goodwin, Bryant & Higgins, 2003).

The word Mnemonic is taken from Greek. In their opinion, it is the memory of their sacred (Amiryousefi & Ketabi, 2011). The mnemonic strategies help to arrange and use information (Bellezza, 1981). The mnemonic strategies make difficult things easy to remember (Lubin & Polloway, 2016). These mnemonic strategies help learners to retain information. With the help of pictures, a connection can be made between the known and the unknown (Wolgemuth, Cobb & Alwell, 2008). These strategies increase the learning abilities of learners. Information can be retained for a long time. One can use this information in a practical way (Shmidman, & Ehri, 2010).

Learners can identify words with the help of mnemonic strategies. These methods are beneficial for students. These strategies enhance the retention rate. Learned material can be used in the future. The practicality of using the material is also enhanced (Laing, 2010).

To make the information beneficial these strategies work a lot. They make data familiar to learners and interaction is created between new and old information. For this purpose pictures are used (Rack, 2005). Ideal things are made real by using these techniques (Mastropieri, Sweda & Scruggs, 2000). Memory can be enhanced by mnemonic strategies. Data is transferred to LTM by using these methods (Woods, 2014). Different types of learners like slow learners can take advantage of these mnemonic methods (Wolgemuth, Cobb, & Alwell, 2008). These methods can make the material meaningful (Laing, 2010).

Memory

Memory plays an active role in humans (Parkin, 1993). Its role is different in different situations (Doss, Glover, Goza & Wigginton, 2015). Memory is an active one, so it performs different actions actively (He, et al., 2016).

Mnemonic Strategies

Bellezza (1980) gives his opinion that pictures

help to understand and organize information effectively. These images are easy to understand and remember. Moreover, students become familiar with the material. (Wolgemuth, Cobb, & Alwell, 2008). Acronyms, keywords, and passwords are called memory-enhancing strategies (McPherson, 2018). Powerful memory and informative knowledge are possible by these strategies. To recall the learned material mnemonics play an important role. Long-term memory contains information that is used in the future wherever it is needed. Information remains for a long time not for a short time in long-term memory. Therefore, it is an enjoyable activity for students and their practical life (Laing, 2010). The same strategies can be applied to higher-grade students (Higbee, 1994).

Keywords Method

Mnemonic strategy and keyword is useful for learning vocabulary. The process of unknown to known is possible through the keyword method. Here 3Rs are involved: Reconstructing, Relating, and Retrieve.

Reconstructing → Relating → Retrieve

1. Reconstructing: Similar sound word is used for students understanding. The related picture is shown to them
2. Relating: Both words have some sort of relation between them.
3. Retrieve: Revision and practice are done here (Mastropieri, 1988).

A connection is made between images and clues for a better understanding of the material (Brown, 2006). Repetition of the same material and pictures has a deep impact on memory (Lorayne & Lucas, 1974). Students can initiate this practice by themselves (Higbee, 1994). They can take benefit from keyword methods for learning vocabulary (Scruggs, Mastropieri, Berkeley, & Marshak, 2010).

Different subjects like English, Math, and science vocabulary can be learned by Mnemonic strategy (Brown, 2007). It is proved through research that keyword strategy helps to learn vocabulary easily (Scruggs & Mastropieri, 1992; Condu, Marshall, & Miller, 1986). Keyword methods created an

association between new words and their related meaning (Nation, [2001](#)).

A similar sound word is needed for a specific word. A relation should be created between these two. It should be attention-catching for learners. Something new is also needed (Hauptmann, [2004](#)). It is stated that a Keyword strategy is not completed if the word is not identified and a relation is not created without the utilization of pictures (Atkinson & Raugh, [1975](#)). The keywords method helps in the identification and memorization of vocabulary for students. They may be able to use this vocabulary while talking (Khalafi & Oroji, [2016](#)).

Statement of the Problem

By using keywords mnemonic strategy phrasal verbs were taught to the students was the main focus of the study. Sometimes, it is difficult for students to recall the memorized material quickly, so, the researcher took an interest in this area. They forget the learned material during the examination. Mnemonic strategies help students to learn new material easily. Most teachers are worried about finding those strategies that help students learn vocabulary easily (Basibek, [2010](#)).

Objective of the Study

This study was conducted to investigate the effect of (Keywords) Mnemonic Instructional Strategy (M.I.S) on students' memory at secondary school level.

Research Hypotheses

The following null hypotheses were tested in the research.

Ho1: There is no significant difference between the experimental (keywords) and control (traditional) groups regarding students' English vocabulary memorization.

Ho2: There is no significant improvement in the student's English vocabulary memorization taught through Keywords.

Delimitation of the Study

This research was delimited to the students of grade 10 of Government Girls High School Mewa Khel Bannu.

Methodology

As this research was experimental, the pretest-posttest research design was used. It consists of three phases:

Phase-1

1: Selection of participants of the study

Sixty students of Grade 10 of Government Girls High School Mewakhel Bannu were selected randomly as participants in this study.

2: Data Collection Tool

A self-developed student English Vocabulary Memorization Test was used as a data collection tool. The test was developed according to the mental level of grade ten students. It was developed according to the suggestions given by five subject experts. To check its consistency split half method was used. After the division of the test, split-half reliability was checked. This test was used after finding the value of the coefficient of reliability which was 0.83.

3: Data Collection

Data was collected from sixty students of Grade 10 of Government Girls High School Mewakhel Bannu. The groups were equalized based on the pretest results. The questions were reshuffled and then the test was taken from both groups.

4: Equalization of Groups

Both groups were equalized after taking the pretest.

Table 1:

Comparison of groups based on pretest using Independent Samples t-test

| S. No | Groups | N | Mean | SD | t | P |
|-------|-----------------------------------|----|-------|------|-------|-------|
| 1 | Pre experimental (Keywords) Group | 30 | 13.70 | 1.70 | 0.085 | 0.968 |
| 2 | Pre control (Traditional) Group | 30 | 13.63 | 2.80 | | |

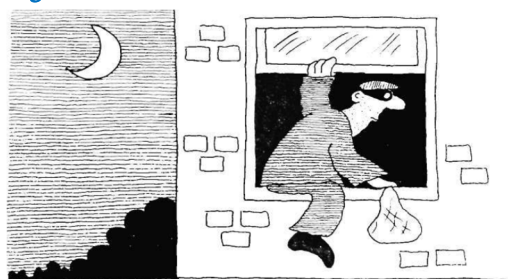
Table 1 shows that the pre-experimental (Keywords) group mean is 13.70 with a Standard Deviation of 1.70 respectively. Similarly, the Mean and Standard Deviation of the control (Traditional) group are 13.63 and 2.80. As p is 0.968 which is above 0.05, so, both the groups are equal.

Phase-2 Experimentation

The period for the experiment was for four weeks. The Controlled (traditional) group was taught with the traditional method for 40 minutes daily. Similarly, the experimental group was taught phrasal verbs with keywords strategy for 40 minutes daily. First, they were shown phrasal verbs. It is associated with their mother tongue. The associated image was shown to them.

For Example, the 'Break into' Phrasal verb is taught through keywords strategy. Students were told a story that some thieves entered the house and they took away all things from the house. The break is related to take. The picture is also shown to them. In this way, other phrasal verbs were taught to them.

Figure 1



Phase-3

Data Analysis

Mean and Standard Deviation were used for the calculation of data. The Independent Samples t-test and Paired Samples t-test were also used to analyze the research data.

Results and Discussion

Testing of Hypotheses

Hypothesis 1

Ho1: There is no significant difference between the experimental (keywords) and control (traditional) groups regarding Students' English Vocabulary Memorization.

Table 2

Comparison of groups based on post-test using Independent Samples t-test

| Groups | N | Mean | SD | t | P |
|-------------------------|----|-------|------|-------|-------|
| Pre Exp group (Keyword) | 30 | 13.70 | 1.70 | -7.78 | 0.000 |
| Post Exp group Keywords | 30 | 27.43 | 8.93 | | |

Table 2 shows the comparison between the two groups. After applying the Independent Samples t-test, got a 27.43 mean and 8.93 standard deviations of post experimental

group. Similarly, the Mean and Standard Deviation of the post-control group are 20.23 and 2.84 respectively. The t value is 55.31 and the P value is 0.000. P value is significant at

0.05 level of significance which shows that there is a significant difference between post experimental group and the control group. It may be inferred from the mean value of both groups and from the P value, that post experimental group significantly performed better than the post-controlled group

Hypothesis 2

Ho2: There is no significant improvement in the student's English vocabulary memorization taught through keywords

Table 3

Paired samples t-test between the pre-experimental group (keywords) and post-experimental group (keywords)

| S. No | Groups | N | Mean | SD | T | P |
|-------|----------------------------------|----|-------|------|-------|------|
| 1 | Post Exp group (Keywords) | 30 | 27.43 | 8.93 | | |
| 2 | Post Control group (Traditional) | 30 | 20.23 | 2.84 | 55.31 | 0.00 |

Table 3 reveals that the Mean and Standard Deviation of pre exp group (keywords) are 13.70 and 1.70 respectively. The Mean and Standard Deviation of the post-exp group (Keywords) are 27.43 and 8.93 respectively. P value (0.00) is significant at a 0.05 level of significance which shows that there is a significant difference between the Exp group and Post Exp group. The Post Experimental group significantly performed better than the Pre Experimental group.

better performance than a control group who were taught through another strategy.

Discussion

The results of the study of Fasih (2018) are similar to the present study. Students performed better after using the keywords mnemonic strategy. They learned different English words easily. The same results are found in the research of Muamanah (2021). He concluded that the keywords mnemonic strategy enhanced the retention level of students to learn new vocabulary (Muamanah, 2021). Kurniarahman(2023) in his study stated that this strategy is beneficial for students to learn vocabulary. He concluded that students taught through the keywords strategy showed

Conclusions

It may be concluded from the results and discussion that the Post-Exp Group (Keywords) performed better than the Post-Controlled Group (Traditional). Similarly, the Post-Exp group (Keywords) performed better than the Pre-Exp group (Keywords). It is also concluded that keywords mnemonic strategy make learning of phrasal verbs interesting for learners. The use of images enhances their vocabulary-building ability and they can easily recall the phrasal verbs.

Recommendations

Further study should be conducted for male students. Similarly, in the future research can be conducted in other subjects like Maths, Science, Computer Science, etc. Keyword mnemonic strategy can be used not only in learning phrasal verbs but in grammar learning too.

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