EFFECTIVENESS OF K-VAN SOFTWARE APPLICATIONS TO ENHANCE ENGLISH LANGUAGE VOCABULARY LEARNING

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Education in general and higher education in particular has been time and space relative and oriented to enlighten the human minds to strengthen the nation and its people. The nexus between teaching and research had motivated us to undertake a research to reorient the existing system and create new innovative systems by which research and teaching can complement and supplement each other. An affirmative attitude towards quality sustainability had compelled to undertake this research as an integral part of the linguistic foundation of our activities which would be percolated in our education system.

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To care about sustainable development means to accept responsibility for the wellbeing of future generations.

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CHAPTER – I

THEORETICAL AND CONCEPTUAL FRAMEWORK

INTRODUCTION

Technology is an opportunity for teachers to differentiate instruction to modify information for the appropriate learning capabilities of their students. The use of technology can also allow students to work at their own paces. In today's hyper digital world, students are drawn to tools that help them visualize and understand key learning concepts. Educational software simplifies this complex process and brings numerous advantages to both teachers and students. Several available websites and apps have gained great reputations because of excellent user experience and high learner achievements. Tracking and reporting on the learner's progress is another key function of online education software. It enables offering more personalized content based on the experience and achievements of a particular student. It also helps us to improve the course or program content to make it more

suitable to the needs and expertise level of most of the students. The software can automate many processes of secondary importance and help teachers focus on their key activities. For instance, special tools provide students access to information, give grades for test assignments, check the homework and handle other time-consuming processes.

Language Lab software helps students to learn the English language through this system and enhance their skills and knowledge. Language lab Software helps in learning English language grammar, listening skills, writing skills etc. English language lab makes learning process highly effective and interesting. It helps in improving communication skills, gain command over the language, gain confidence face the challenges.

Language lab software is the audio and visual software designed to learn any language. New technology, software, materials, instruments, systems and techniques lead to the desired goals of English teaching. Technology is now an essential part of education and learning, particularly in English, since it offers many ways to improve the quality and training of traditional language education. The primary

goal is to describe and consider the relevant problem for the students and teachers. The use of devices and new educational systems and technologies that improve and sharpen the advancement of learning are included. The students would develop language skills and refine them according to established pedagogical theories using professional learning opportunities. The use of English technology enhances the integrated approach to the digital media framework and other elements that help students to obtain the necessary results. Because of the unparalleled advances in a wide variety of fields, the application of digital technology has become essential to education. To enhance language education, the education industry needs to proceed in line with worldwide technological change, allowing teachers to make systematic and advanced links to language teachers through state-of-the-art technology such as computers, multimedia, cellular mobile, audio-visual and social media applications. The web provides free access to English language learning, software applications, channels and materials effectively, instantly, and literally.

The Teachers play an essential role in implementing various teaching strategies and techniques, as they are readily available. Also, many of these programs are designed to facilitate efficient English training while at the same time promoting English fluency

English language teaching have been supported by technology that helps teachers build up their teaching strategies and enhance their teaching process. Technology continues to evolve as a teaching instrument that motivates students to learn languages. The literary analysis demonstrates that the use of modern technologies enhances the vocabulary skills of students. English in a country such as India is used as a second language, and English in certain countries around the world is used as a first language. The critical subject of the curriculum in English is more important than ever. For the growing number of English students, many teaching approaches have been used to control the progress of the teaching process. In film, radio, and television, authentic materials have long been used. These innovations have been substituted by actual conventional teaching. New times have new challenges and

responsibilities for today's teachers. With the remarkable advent of technology, English teaching has changed dramatically. Technology integration in education is much more fruitful for teaching-learning process.

Today's condition of the English language and its position in English revolves around social, political, socio-cultural, educational, industrial, media language, a library and trans frontier communication language. The extensive use of English ensures that students can learn the language. Teachers are using modern methods, in order to develop and enhance language acquisition. Vocabulary enhancement is one of the important attributes of English language

The term "English" is derived from '*Anglisc'*, the speech of the Angles one of the three Germanic tribes that invaded England during the fifth century. The English language is the primary language of several countries, including Australia, Canada, New Zealand, the United Kingdom and many of its former colonies, and the United States, and the second language in a number of multilingual countries, including India, Singapore, and the Philippines. It's an official language in several African countries as well,

such as Liberia, Nigeria, and South Africa, but is spoken worldwide in more than 100 countries. It's learned around the world by children in school as a foreign language and often becomes a common denominator between people of different nationalities when they meet while travelling, doing business, or in other contexts.

Learning English vocabulary is a basic and very important part of learning the language. Learning a new vocabulary means more than just understanding what the word means. To really learn new English words, one must understand them and be able to use the words correctly when one speaks or writes. Students would probably learn English words faster when they are important to their daily lives or come from a subject that interests them. A good way to learn English vocabulary is to see and hear many repetitions of the words within a topic or an interesting context like a story or a reading.

According to Christine Kennelly in her book "The First Word, "Today there are about 6,000 languages in the world, and half of the world's population speaks only 10 of them. English is the single most dominant of these 10. British

colonialism initiated the spread of English across the globe; it has been spoken nearly everywhere and has become even more prevalent since World War II, with the global reach of American power".

DEFINITION OF ENGLISH VOCABULARY

"You can't build a vocabulary without reading. You can't meet friends if you stay at home by yourself all the time. In the same way, you can't build up a vocabulary if you never meet any new words. And to meet them you must read. The more you read the better" - Rudolf Flesch

"People with an impoverished vocabulary live an impoverished emotional life; people with rich vocabularies have a multihued palette of colours with which to paint their experience, not only for others, but for themselves as well" - Tony Robbins

"It's like learning a language; you can't speak a language fluently until you find out who you are in that language, and that has as much to do with your body as it does with vocabulary and grammar." - Fred Frith

“As you can appreciate over my lifetime I’ve developed a large vocabulary of sounds each requiring certain physical techniques often combined with a specific effect box.” - Adrian Belew

The Main Approaches of Teaching English Vocabulary

- Interactive approach
- Collaborative approach
- Reflective approach
- The inquiry-based approach

OBJECTIVES OF TEACHING ENGLISH VOCABULARY USING TECHNOLOGY

The extensive use of English ensures that students can learn the language. Teachers are naturally using modern methods of But students can develop their vocabulary acquisition, especially for ESL (English as a second language) students who learn the language more than just for fun.

Technology has entered the field of education due to improved learning outcomes and especially in traditional

teaching, technology and media education have become dramatically common in the form of curricula integrated technology. There are some concerns about obsolete teaching methods:

1. For traditional approaches, precise tests, and textbooks can be used. Therefore, the teacher only sends the information without taking good or negative results into account.

2. Traditional methods are based on simplified techniques that fail to satisfy objective or essential criteria for learning. Their ultimate aim is to repeat data without understanding it.

3. Students rely on the pictures and sounds, unlike the Digital Tools that teacher can use to teach vocabulary

Several tools that teachers can to teach vocabulary are enlisted. Most of these tools incorporate effective techniques for the teaching of vocabulary.

- Tools that show the relationship between different words in a text. These include programs like Wordle, which is an online application. This software allows

creating word clouds from a text that can be manipulated. Another similar tool is Wordsift, also available online.

- Tools that create digital vocabulary field trips. The most common program for this teaching approach is TrackStar. This program is available free on the Internet. With this software one can collect different websites to create a vocabulary field trip.
- Tools that allow playing vocabulary games. There are several games of this type available online. These games can include crossword puzzles and many other ingenious and entertaining ways to have fun and learn.

Technology Makes Assessment Easier for Teachers and Students

Grading is hard, and keeping track of stacks of papers, from collection to redistribution, gets complicated. Students who want to retake a quiz or test or those who need an alternate version, it becomes overwhelmingly frustrating.

Assessments are not just hard on teachers; they are also hard on students. From keeping track of all of their papers to remembering what to turn in when, they are often overwhelmed.

The end goal of assessing students is to provide timely feedback with regard to the students' actual learning. If teachers are not able to grade quickly or forget to turn back papers in the hectic daily schedule, students do not get the feedback they need and therefore, can only guess how well they know their material until the next assessment. As assessments build on each other, this lack of metacognition becomes seriously harmful to students' overall growth in their educational path. All of these issues are eliminated when technology is integrated into the classroom

With *Vocabulary Workshop Interactive Edition,* teachers can assign assessments virtually and grading is done automatically by the program. Students who were absent can access their assessments whenever needed additionally. Students have instant feedback as to what they know and do not know and can have multiple opportunities to retake assessments.

Technology Allows Teachers to Assign Activities in an Instant

When it comes to assigning work for students, teachers can often spin in multiple directions. Teachers want students to take the time to practice, but making copies and distributing work gets difficult, especially if students are absent, class time gets cut short, or different classes have different needs.

The right technology tools allow teachers to assign vocabulary activities instantly and collect completed assignments virtually! Furthermore, with tech, students never lose papers, never have to miss an assignment if they are absent, and can get immediate feedback on any activities they complete.

Being able to assign activities instantly with the *Vocabulary Workshop Interactive Edition* makes the learning quick and enjoyable for students. With this digital program student work is turned in automatically and each class can be given tasks

Technology Helps Teachers, Students and Families

Track Students' Progress

Keeping track of and communicating to students and their families about students' progress can be time consuming and problematic. If students and their families only see grades in a grade book, they cannot understand where students did and did not understand specific questions. Technology makes it easier for educators and families to work together to monitor students' vocabulary progress. With the appropriate tech tools, a student's progress in vocabulary can be recorded, tracked, and shared amongst the student, teacher, and parents/guardians. One can see not only the final results but also each individual question and answer. This progress reporting encourages students to take ownership of their learning while also allowing families to help when necessary. Teachers too can see the growth of students and can intervene more quickly and efficiently when problems are flagged in the system. Additionally, students can gain a true sense of satisfaction when they see their progress over time.

Technology Makes Differentiation Painless

By integrating technology in the classroom, students do not to feel the stigma of doing a different worksheet or alternative assessment because all the work is on devices and personalized to their needs. Differentiation is crucial to student progress, but even with technology, differentiation can still be incredibly difficult to execute. However, differentiation is Technology and teaching come together, where teachers can assign students work based on their individual needs and IEP goals, and can even assign different words to students based on their diagnostic test results. Teachers do much less work on the creation of differentiated work. With a few clicks of a button, teachers can quickly and easily give each student the exact work they need, and then have it graded automatically by the *Vocabulary Workshop Interactive Edition.*

Technology Engages 21st Century Students

Integrating technology in the classroom engages 21st century students. Students today have been raised using technology to communicate, to consume content, and to learn. ICT in teaching-learning process makes learning fun and exciting for students with instant feedback, games,

and opportunities to extend their learning.

Vocabulary teaching is at the heart of developing proficiency and achieving competence in the target language. There has been constant effort in search of the best technique to teach vocabulary. In this context, although vocabulary is a core of foreign language learning, idiomatic expressions are the most frequently used non-literal expressions and building blocks of daily conversations in a language. So lack of ability to use them competently can cause communication problems for the language learner such as sounding unnatural and inauthentic (Cooper, 1998, 1999). These expressions are particularly important to become proficient in the target language (Boers et al, 2006). A good command of idiomatic Contemporary Educational Technology, 2016, 7(1), 47-59 48 expressions is generally considered as becoming closer to the fluency of native speakers of the target language (Fernando, 1996; Schmitt, 2000; Wray, 2000). Therefore, as Irujo (1986) emphasized, teaching idioms should be an integral part of language teaching programs from beginning levels and taught in naturalistic contexts with ample chances of practice.

Learning with devices is at times different from the traditional vocabulary learning strategies complements or enhances such strategies. In order to learn with a mobile device, both students and teachers must first perceive the device as a learning tool. Dictionary.com app helps the learners to be familiar with it to know it provides a recording of a word that one can hear what it sounds like. The learner must also be aware of its function an English dictionary and thesaurus app that provides trusted definitions and origins with examples as well as smart control of learned vocabulary. The effect of using one iPod application (i.e., Vocabulary Builder) on the vocabulary acquisition of elementary English learners. The control group completed a teacher-created worksheet whereas the experiment group used the K-VAN app. Results suggested the K-VAN can support vocabulary acquisition. The visual and audio exposure provided by the K-VAN app increased vocabulary acquisition as English learners were both visually exposed. Students who used K-VAN also showed a higher level of engagement and motivation in acquiring vocabulary. Similarly, Wang et al. (2015) investigated the effect of K-

AN apps on vocabulary acquisition and motivation of English learners at college level. Students in experimental group learned English vocabulary through the Learn British English Word Power app whereas students in control group learned English vocabulary through the semantic-map method. The authors suggested students using the K-VAN performed better in vocabulary knowledge and reported higher engagement and motivation to learn vocabulary than those students in control group.

Growth of English Language VOCABULARY

Teaching Through Technology:

21st century is a time of globalization, and it is essential to learn numerous foreign languages. English has been with us for many years and continues to grow in popularity thanks to the Internet. The Graddol study (2000) shows that the number of English students was around a billion in 2000, but it doubled a decade later. The prediction shows that English peaked in 2010 in education. More than 80 percent of the data saved on the site are in English, the same research reveals. Today ELT has become a significant

feature of its diversity in learners, age, ethnicity, learning history, etc. There are more non-native people than indigenous people. The new English model of learning is a favourite medium to update and exploring the new era of multimedia education and audio, visual and animated effects, emerging and expanding with the rapid growth of science and technology. English language teaching was an important task. Multimedia technology has shown a positive role in encouraging student events, projects, and teaching in the English classroom. Progress in technology is part of English development and improves our form of communication. The growth of the Internet is relatively indicative of the increase in English, and computers are no longer limited to a few but can be utilized by many at a time. Therefore, the literature on the use of technology in English has led to a considerable evolution. Most of these texts unambiguously involve technology as the critical component of teaching. In some ways, if we ignore or neglect technological advancement and maybe never can catch up, irrespective of our expertise or branch. Language teachers must also understand and know what is available

in each given case, the latest and best equipment. Teachers will provide more lively and engaging lectures using interactive technology (new Horizons). In different degrees of language analysis, there are several methods. Both language experts and teachers must consider the use of modern technologies for different purposes. In this regard, one should also emphasize that innovations are growing and spreading so fast that they cannot be stopped in any way.

APPLICATION OF MULTIMEDIA IN ENGLISH LANGUAGE VOCABULARY TEACHING

Multimedia is defined as any combination of text, graphic, sound, video and animation. Multimedia can be delivered to user via electronic or digital manipulated means. In order to create a good multimedia project, you need to be creative, technical, organizational and business skills. When the user is allowed to control what and when these elements are delivered, it becomes an interactive multimedia. Interactive multimedia can be called hypermedia. This happens when a user is provided with a structure of linked elements for the use of navigation.

Multimedia is vital in one's life. This is because it is packed with various elements such as text, graphic, sound, video and animation. All of this element can be seen in our surrounding. It is also used in various fields such as in education, training, business, games and science and technology. This is a proof that multimedia is important. In fact, multimedia is changing the ways of learning itself. Instead of just limiting one with a linear presentation such as reading text from a book, multimedia makes many improvements in learning by bringing various elements in order to make it more dynamic. *Multimedia is a synthesis: a hybrid offering the advantages of the user-driven book with the wonders of electronic technology" -Robert Winter; UCLA Roundtable in Multimedia* Education courses, skills and knowledge are often taught in a context. To overcome this, the use of multimedia as education aids help to provide a real world example using a computer with high quality content. The various type of software available on the market can also help to provide a friendly interactive method of learning. Multimedia and the tool such as the internet can provide teacher an instant excess to millions of

resource available. These materials can help the teacher to provide the students with cooperative learning, critical thinking, discussion, and problem solving. So, multimedia approach in education provides many advantages over the traditional method. Multimedia possesses a lot of advantages to make learning interesting. With the help of its elements, it can invoke creativity in both teacher and students so that they can apply it in order to teach or learn. Learning has also become much easier with the help of multimedia. This is a must because we need to keep pace with the evolvement of technology. The trend of using multimedia in language classroom has become more and more popular in various countries nowadays (Bingimlas, 2009; Brünner, 2013; Klimova & Poulova, 2014). According to Duffy (2007), multimedia has become an effective material that is used widely in English language classroom in the past few years. THAITESOL JOURNAL 34(2) 48 exposure in the language acquisition (Watkins & Wilkins, 2011). Using multimedia in language classroom gives the students opportunities to learn language interactively. It also provides teaching materials in all fields

of knowledge that both the teachers and learners can access anywhere and anytime (Mayer, 2001). Many studies found that multimedia can enhance vocabulary knowledge (Al-Seghayer, 2001; Mathukorn, 2015; Rahimi & Allahyari, 2019). Al-Seghayer (2001) investigated the use of multimedia with printed text, pictures with printed text, and printed text alone to improve students' vocabulary knowledge. The findings demonstrated that the use of multimedia with printed text is more effective in improving students' vocabulary knowledge than the use of pictures with printed text. When applying multimedia, it was found that the students can remember new vocabulary more than using pictures. The study of Mathukorn (2015) about the impact of multimedia learning on students' achievement in vocabulary knowledge also supported that using multimedia can improve students' achievement in vocabulary knowledge so that the researcher encouraged English teachers to attend more multimedia program training to apply in the classroom. Moreover, according to the study of Rahimi and Allahyari (2019) which explored the effectiveness of multimedia-assisted vocabulary learning

strategy instruction on language learners' vocabulary learning, the results revealed that the students who had opportunities to study through multimedia-assisted vocabulary learning strategy instruction outperformed the students who received conventional instruction.

SOFTWARE SUPPORT STUDENTS IN LEARNING VOCABULARY

In the original vocabulary field trip (Blachowicz & Obrochta, 2005), the teacher begins with a large poster of a topic, such as weather. Students are seated on the carpet, and the teacher leads a field trip that includes having students observe and record what they saw as they read books and other materials. As students volunteer weather words, the teacher records them on sticky notes or tag board and puts them up beside the poster. After the observations are concluded, the teacher returns the students' attention to the words, repeating them and linking them to the poster. Next, students sort the weather words into conceptually related groups and engage in other semantic activities.

Connect fun and learning with online vocabulary games

No list of technology applications for vocabulary would be complete without mentioning of the vocabulary games that are available for free on the Internet. Two sites that offer a variety of activities to engage students in playing with words and word meanings: Vocabulary Games and Vocabulary. Games include crossword puzzles, picture-word matches, word scrambles, and 8 Letters in Search of a Word. The games are supplemented with themed word lists, test preparation items, and activities on prefixes and suffixes. These sites can be bookmarked for students' independent practice and can provide a basis for whole-group instruction.

Students use media to express vocabulary knowledge

This strategy focuses on students' vocabulary representations in multiple modes-writing, audio, graphic, video, and animation (Nikolova, 2002; Xin & Rieth, 2001). The first set of examples draws on promising research with universally designed digital text (Dalton & Proctor, 2007),

suggesting the benefit of having students develop word meaning as they read a definition, view graphics, listen to the word, write or audiotape a personal connection to the word, create a caption for a graphic, and complete an interactive word map (Proctor et al., 2007; Proctor, Uccelli, Dalton, & Snow, 2009). students communicate word knowledge as they create a caption for an image. These types of activities offer students different modes of representation and expression and can be created with a variety of composing tools and formats, such as digital stories, photo essays, podcasts, and so on.

Combining vocabulary learning and social service

Many of these eVoc strategies use Web 2.0 technologies to promote social learning. They also tap into students' natural desire to create, to participate in communities, and to develop strategic competence. Recent reports on students' digital illiteracies highlight the importance of this kind of learning (Ito et al., 2010).

The 10 eVoc strategies use technology to support the wide reading, direct instruction, active learning, and interest in

words that we know are essential to vocabulary development. In a digital world, knowing how to use the tools and resources available online is part of becoming a strategic learner.

Poor English Vocabulary

Vocabulary is one of the integral parts of learning any language, including English. Any language, including both Arabic and English, has hundreds and thousands of words and it is impossible to know all of them at a given time. Even native speakers do not know all the words of their mother tongue.

If one wants to be an advanced speaker, then one need to know 4,000 to 10,000 words and if you want to become fluent, then you must know more than 10,000 words apart from learning all the words, another one of the problems in learning English that people face is forgetting the words soon after learning them.

Confusing Spelling

There are hundreds and thousands of words in English that have completely different spellings but sound the same

when pronounced. You can have a ‘pair’ of shoes or eat a ‘pear’ for lunch. These words sound the same but have vastly different meanings and spellings. Moving on, you will also notice that individual letters in words can sound different. For instance, the letter “f” can be spelled in different ways. You can spell it like a “gh” in words such as “enough, or tough,” or you can spell it like a “ph” in words like “phone,” or you can use it like a double “f” in words like “fluff.” Whew! That’s a lot. This has to be on the top of the list of problems faced by students in speaking English.

Learning a new language can feel overwhelming, so the embarrassment that comes with it is natural.

Slang and colloquialism

With the English language having such an extensive vocabulary and complicated grammar, there is enough to teach students wanting to learn English, rarely are students exposed to the slang words used by English speakers in every day conversation. Sentences can be predominantly filled with slang words, so maintaining a conversation can

be difficult for anyone who doesn't understand what they mean.

Pronunciation

Knowing how to pronounce words in English can be very difficult as it isn't always obvious. English speakers have been taught these from an early age, which is how they know not to pronounce the ‘k' on ‘knight' , they are taught the subtleties in how to pronounce something to communicate the right message. Furthermore, depending on the first language of the English student, it can often be difficult to pronounce certain words properly, having not ever had to create that phonetic sound before.

General objectives

- To study the effectiveness of K-VAN software application in English language vocabulary learning for VIII Standard students.
- To develop the multimedia application teaching strategy to teach second language for VIII standards students

- To develop a test in English at VIII standard level based on the selected topics.

Specific objectives

1. To find out whether there is any significant difference between pre-test and post-test scores in English of control group VIII standard students.
2. To find out whether there is any significant difference between pre-test and post-test scores in English of experimental group of VIII standard students.
3. To find out whether there is any significant difference between control and experimental group VIII Standard students in their post-test in English with regard to knowledge, understanding and application.
4. To find out whether there is any significant difference between control and experimental group VIII Standard students in their post-test in English with regard to knowledge, understanding and application.
5. To find out whether there is any significant difference between control and experimental group VIII Standard students in their gain score in post-test in English.

HYPOTHESES OF THE STUDY

1. There is no significant difference between pre-test and post-test scores in English to control group VIII Standard students.
2. There is no significant difference between pre-test and post-test scores in English of experimental group VIII Standard students.
3. There is no significant difference between control and experimental group VIII Standard students in their pre-test in English with regard to knowledge, understanding and application.
4. There is no significant difference between control and experimental group VIII Standard students in their post-test in English with regard to knowledge, understanding and application.
5. There is no significant difference between control and experimental group VIII Standard students in their gain score in post-test in English.

DELIMITATIONS OF THE STUDY

The investigator has delimited the study with the following

1. The study is conducted among the VIII Standard students and not extended to students of other classes.
2. The study is conducted on only one subject namely English.
3. The investigator has taken only 3 units from VIII Standard Samacheer Kalvi Syllabus.

The study has been limited to Palayamkottai only. The investigator has tested the significance of 0.05 level.

Conclusion

Theoretical framework of the study is given in the first chapter. It also deals with the importance of the present study, objectives of the study, hypothesis of the study, and delimitations of the study. The review of the literature is present in the next chapter

CHAPTER II

REVIEW OF RELATED LITERATURE

INTRODUCTION :

The phrase review of literature consists of two words; Review and literature. The term review means to organize the knowledge of the specific area of research to evolve an edifice o knowledge to show that the proposed study would be an addiction to this field. In research methodology the term literature refers to the knowledge of a particular area of investigation of any discipline which includes theoretical and practical research studies. The task of review of literature is highly creative and tedious because the researcher has to synthesis the available knowledge of the field in a unique way to provide the rationale for his study .the words ‘review’ and ‘literature’ have quite difference meanings in the historical approach. In historical research the researcher does much more than only review already published material .He seeks to discover and to integrate new information which have never been reported and considered . The concept process implied in the term

‘review of literature ‘have different meanings in historical and experimental research.

According to Aggarwal J.C is the right in stating that ‘The study of literature implies locating reading and evaluating reports if research as well as reports of observation and opinion that are related to the individual‘s planned research project”.

The literature review should provide the investigator with an explanation of the theoretical of the problem being studied as well as research has already been done and how the finding relate to the problem at hand it is most helpful to divide the literature into subtopics for case of reading. Knowledge is cumulative ever piece of research will contribute another piece to it. That is why it is important to commence all research with a review of the related literature or research and to determine whether any date source exit already that can be brought to bear on the problem at hand.

The survey of related studies implies location studying and evaluation reports of relevant researches study of published articles, going through related portions of encyclopedia and research abstract, study of pertinent page

out of comprehensive books on the subject and going through related manuscripts if any. For any worthwhile study in any field of knowledge, the research worker needs adequate familiarity with the work which has already been done in the area of his choice.

Thus review of literate is a crucial step which invariably minimizes the risk of dead, rejected topic, rejected studies, wasted effort and trial and error activity oriented toward approach already discarded by previous investigators and erroneous findings based on a faculty research design.

MEANING OF THE RELATED STUDY

Study of the related literature implies locating, reading and evaluating reports of research as well as reports of casual observations and opinion that are related to the individual's planned research project.

PURPOSE OF THE REVIEW OF RELATED LITERATURE

The review of related literature is not without purpose. The following are some of the purpose of the review of related literature,

- Complete survey of the related literature gives the research necessary insight in to the problem. It enables him to put forth vigorously the rationale for the study.
- It becomes an important part of the introductory part of the thesis.
- It helps to orient the reader with types of researches that have been conducted in the field previously.
- It widens the horizon of researchers.
- It suggests appropriate method to take the problem under study.
- It helps in avoiding unnecessary duplication of researchers by spot lighting the solution of the problem that the researcher desires to undertake.
- It contributes to the basis for formulating valuable hypothesis.
- It helps to locate data that can be used in comparative interpretation of results.

REVIEW STUDIES

Jen-Jiun Lin, Huifen Lin(2019) Mobile- assisted ESL / EFL vocabulary learning: A system aticre view and meta analysis, Computer Assisted Language Learning.

Mobile-assisted language learning (MALL) has been a popular research area in recent years in the education field, as it has been considered as being able to facilitate language learning by offering an authentic, socially connective, contextually sensitive, and personalized mobile-mediated language learning environment. To investigate the benefits and possible limitations of mobile-assisted L2 vocabulary retention, many researchers continuously conducted relevant experiments worldwide. Among the current mobile-assisted L2 vocabulary learning research, short message services (SMS), multimedia message service (MMS), and mobile applications (apps) are the predominant approaches supported by the situated learning theory, cognitive mechanisms of L2 word retention, behaviorism, and social constructivism. Although language educators have been

focusing on this topic, the effectiveness of mobile L2 vocabulary learning still remained in conclusive. Besides, to date, little research synthesis has been conducted to investigate the effect of mobile-assisted L2 vocabulary learning. The purpose of this meta-analysis is to systematically synthethisize findings from (quaisi-experimental studies carried out between 2005 and 2018 to examine whether there is a connection between the use of mobile technologies and L2 word retention. The results of 33 primary eligible studies showed a positive and large effect of mobile-assisted L2 word learning interventions. Additionally, SMS/MMS mode was found to be more beneficial for L2 word retention than mobile application mode; however, it is more prudent to interpret this finding as tentative because the number of target words and intervention time were unequal in the two modes. Moreover, the research settings, treatment durations, and task-afforded autonomy are three variables that tend to significantly moderate the effect of mobile-assisted L2 word retention. However, the above results should be viewed as suggestive rather than definitive with a view to

the research flaws found in the primary studies and the small sample size of certain categories of moderators' when compared.

Pang Wan Ji, Azlina Abdul Aziz (2021) A systematic review of vocabulary learning with mobile-assisted learning platforms

This paper presents a systematic review of relevant published studies on the use of mobile assisted learning platforms in vocabulary learning. This systematic review aims to explore the effectiveness of the mobile-assisted learning platforms on the vocabulary learning of ESL/EFL learners and the perceptions of students in the learning of vocabulary using mobile-assisted learning platforms. Following a systematic search and application of inclusion and exclusion criteria, twenty studies were retained and subjected to data analysis and synthesis for the systematic review. Google Scholar, Science Direct, Educational Resources Information Centre (ERIC), SAGE, Scopus, Springer e-journals, Web of Science and JSTOR databases were searched to identify relevant studies. Results indicate that the mobile-assisted learning platforms aid ESL/EFL

learners in vocabulary acquisition, enhance vocabulary retention, increase motivation and provide rich and supplemental language learning materials and experience. The findings of the past related studies also highlight that students perceived vocabulary learning using mobile-assisted learning platforms as efficient, easy to use, flexible and accessible, satisfying, entertaining and interesting. However, there are also some negative perceptions of students towards the use of mobile-assisted learning platforms in the learning of vocabulary. A mobile-assisted learning platform brings more advantages than disadvantages, educators and teachers shall explore and implement the language classrooms to engage and motivate students in vocabulary learning.

Parichehr Afzali, Somayeh Shabani, Zohreh Basir, Mohammad Ramazani (2017) Mobile-assisted vocabulary learning: A review study, Advances in Language and Literary Studies

Mobile phones are becoming more acceptable toolkits to learn languages. One aspect of English language which has been subject to investigation in Mobile Assisted Language Learning (MALL) is vocabulary. This study reviewed some of the studies conducted in various contexts on the effect of MALL on vocabulary learning. We investigated some of the most prominent databases such as Science Direct, Wiley, Scopus and Oxford to find these studies; believing that this study can have pedagogical implications for future researchers and language teachers. We selected studies done in different countries such as Malaysia, Taiwan, Korea, China, Japan, Iran, Saudi Arabia, and Turkey. Thirty studies were selected purposively in this way. Some of the main features of these studies are elaborated on in the discussion section. Pedagogical implications are discussed.

Panagiotis Arvanitis, Penelope Krystalli (2021) Mobile

Assisted Language Learning(MALL): Trends from 2010 to 2020 text analysis techniques, European Journal of Education

Throughout the decade of 2010-2020,the wide spread use of mobile devices of any type (smartphones, tablets) has encouraged and strengthened their use in different learning processes and in different ways. Latest improvements in devices' processing power, in storage capacity, in memory allocation, in wireless connectivity, in GPS and in Bluetooth capabilities, has led to their wider integration and smoother use in the field of learning and in the field of language learning as well. This study examined the trend of a large number of academic studies concerning Mobile Assisted Language Learning (MALL) using text analysis techniques and tools, published in the decade 2010-2020. Over three hundred and forty (340) publications such as journal articles, conferences proceedings papers, books chapters' and books were retrieved and analyzed. The preliminary analysis presents the main characteristics and the research trends of this decade and discusses how the field of mobile assisted

language learning has evolved in these years.

Peter J Patsula (2001) Web Design for Effective Online and Instruction

This is the study of researching experimental thesis that surveys and examine web designs for effective online training and instruction. The purpose of the thesis is to create from a variety of relevant learning theories and practical web-design strategies advocated in the research literature a Web-based instruction checklist that can be used to develop and assess online instructional materials. This checklist, referred to as eBIC, is structured around the common ISD processes of analysis, design, development, implementation, and evaluation, with a focus on ‘web Usability’ and ‘the Five Ps’ of preparation, presentation, participation, practice and performance. To determine the usefulness of WeBIC as design and evaluation tool, three studies have been generated:

(1) an experimental comparison study of online instructional materials in two formats a web-study one that follows guidelines and strategies outlined by eBIC, and the

other that follows a text-only format based on a modified form of thesis writing guidelines;

(2) an analysis study of server date related to website access and instructional activity at ESLebgkusg.com and during the comparison study; and

(3) an evaluation study of the instructional materials used in the comparison study and the instructional materials available at ESLenglish.com.

The comparison study showed 2.1% learning gains that under closer analysis were found to be non-significant. The server analysis study confirmed the importance of designing for ‘speed of access’ and ‘navigation ease.’ It also brought in to question the reliability of web mining data and the need for proper operational definitions. The evaluation study produced WeBIC scores for ESLenglish.com and the comparison study learning materials that could be used as benchmarks for further research.

Tudor Griffith Jones (2002) The effects if Video Based and Activity Based Instruction on High School Students use of seat belt

The purpose of this study was to determine the effect of video-based science instruction and accompanying activity-based science instruction on the knowledge, attitudes, and behavioral intentions of high school students' use of seat belts. Secondarily, the purpose was to determine order effects and interactions between the two treatments used in the study" video-based instruction and hands- on activity-based instruction. The study used Ajzen and Fishbein's theory of reasoned action to investigate the factors influencing high school students' behavioral intentions regarding seat belt use. This study used a pretested on physics knowledge, attitudes, and behavioral intentions toward seat belt use prior to two treatments. Treatment A was defined as participating in one 50-minute video-based instructional lesson. Treatment B was defined as participating in four hands-on science activities regarding crash-related that combining the treatments resulted in higher mean knowledge scores than either treatment did individually. Participating in video-based instruction initially produced significant changes in students' attitudes

but these changes were not maintained after students completed the activity-based instruction.

Ludwig T.E and David (2004) Using Multimedia in classroom presentation: Best Principles

The purpose of the study was to identify some of the best practices in computer enhanced classroom instructions. The findings of the study had shown that if done If done well, multimedia content organized with a slide ware tool can generate productive and stimulating presentations that lead to greater retention, application to new situations, and performance on assessments. If not done well, they can be a distraction from learning and ultimately unproductive.

Yigal Rosen Y, (2009), The effects of an animation based on-line learning environment on transfer of knowledge and on motivation for English and technology learning

The study described here is among the first of its kind to investigate systematically the effect of learning with integrated animations on transfer of knowledge and on motivation to learn science and technology. Four hundred eighteen 5^{th} and 7^{th} grade students across Israel participated in a study. Students in the experimental group- participated

at least once a week in science and technology lessons that integrated the animation environment. The findings showed a significant impact of animation-based online learning environment on transfer of knowledge and on learning motivation. Additionally, the findings showed that students changed their perception of science and technology learning a result of teaching and learning with integrated animations. Students perceived themselves as playing a more central role in classroom interactions, felt greater interest in learning, and emphasized more the use of technology and experiments during lessons.

G. Korakakis E.A. Pavlatou J.A Palvos N. Spyrellis, 2009, 3D Visualization types in multimedia application for English learning: A case study for 8th grade students in Greece

This research aims to determine whether the use of specific types of visualization(3D illustration, 3D animation, and interactive 3D animation) combined with narration and text, contributes to the learning process of 13 and 14 years old students in science courses. The study was carried out with 212 8th grade students in Greece. This

exploratory study utilizes three different versions of an interactive multimedia application called “methods of separation of mixtures”, each one differing from the other two in a type of visuals. The results indicate that multimedia applications with interactive 3D animations as well as with 3D animations do in fact increase the interest of students and make the material more appealing to them. The findings also suggest that the most obvious and essential benefit of static visuals (3D illustrations) is that they leave the time control of learning to the students and decrease the cognitive load.

Emron Dhindsa, 2010 “Integration of Interactive Whiteboard Technology to improve Secondary Teaching and Learning”

This study describes the findings of an experimental research project that deals with the integration of interactive whiteboard technology in science teaching to improve students’ learning outcomes, gender gap in learning outcomes and the implementation of the findings in Bruneian schools. The first stage of the project was designed to investigate whether or not the integration of

interactive whiteboard technology in the Bruneian classroom would improve students' learning outcomes and minimize gender gap in learning outcomes, given that teaching and learning is a cultural activity. During this impact study, the mean gain in achievement score of an experimental group taught secondary science content using interactive whiteboard technology in a constructivist learning environment was significantly higher compared to that of a control group taught using the traditional approach. The learning outcomes were compared in terms of students' academic achievement. Moreover, non-significant and significant gender differences in mean scores for experimental and control groups respectively were observed. These results suggested that the integration of interactive whiteboard technology in Bruneian schools can gainfully improve science students' achievement and minimize gender gap in achievement to overcome the national problem experienced in Brunei. The implementation of these results on a large scale in schools required the training of teachers and making the interactive whiteboards available in classrooms. The perceptions of

those teachers who have undergone training lend further support towards the suitability of the interactive whiteboard technology for teaching science. The finding of the experimental research and teacher perception of training can guide decisions of teacher trainers and ministry of education use this technology in teaching science.

CHAPTER III

THE PROCEDURE AND METHODOLOGY

INTRODUCTION

Research is a scientific inquiry aimed at learning new facts, testing ideas, etc. It is the systematic collection, analysis and interpretation of data to generate new knowledge and solve a problem.

Research is a systematic and objective analysis and recording of controlled observations that may lead to the development of generalizations, principles, theories and concepts , resulting in prediction for seeing and possibly ultimate control of events. – John W. Best (2010)

According to Cooper and Schinder (2003), “Research in any organization is the inquiry carried out to provide information for solving problem”. “Research is a careful enquiry or examination in seeking facts or principles, a diligent investigation to ascertain something”, Clifford woody (2010).

The purpose of research is to discover answers to questions through the application of scientific procedures.

The main aim of research is to find out the truth which is hidden and which has not been discovered as yet.

Research methodology is the systematic, theoretical analysis of the procedures applied to a field of study (Kothari, 2004). A Methodology does not set out to provide solutions but offers the theoretical underpinning for understanding which procedure, set of procedures can be applied to a specific case.

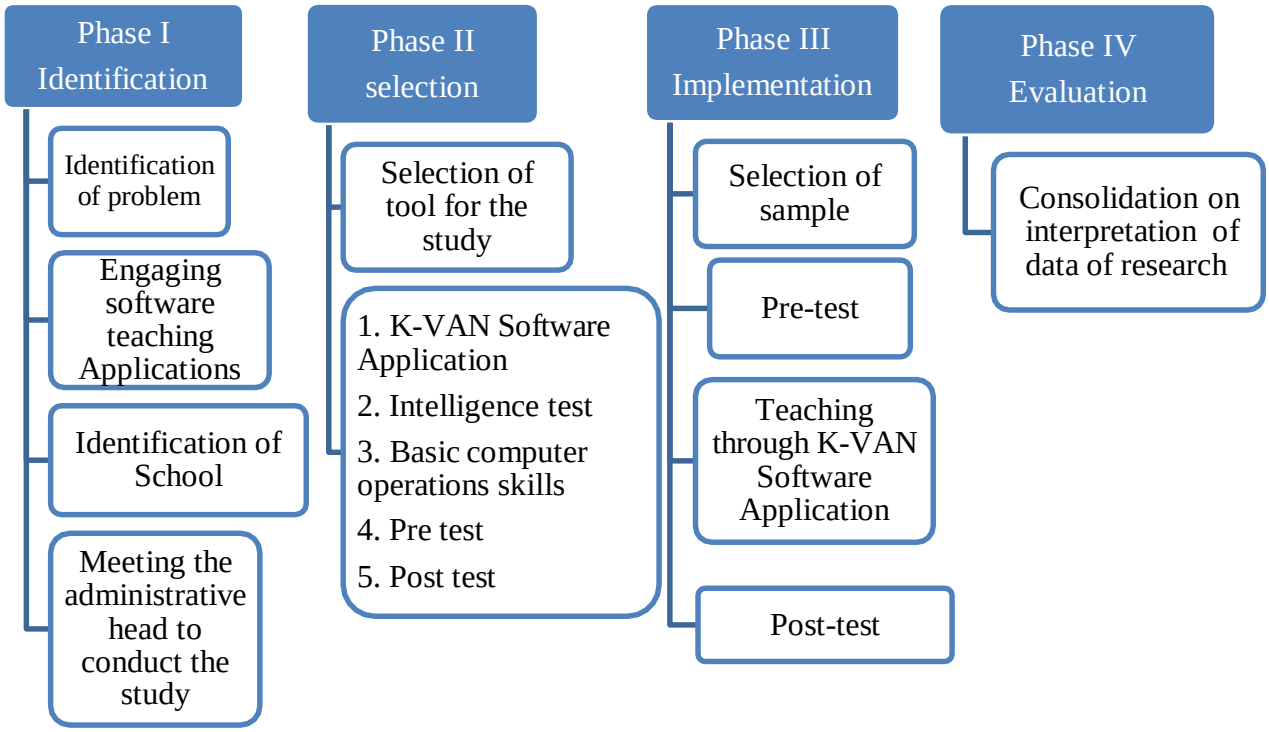
In this research, the investigator describes about the design of the study, nature and selection of the sample, construction and validation of tools used in the experiments. The chapter deals with the method adopted, population, sample, tools administrated and statistical techniques used in this study.

METHOD USED FOR THE STUDY

The investigator followed the experimental method for conducting the present research. Experiment always deals with the cause and effect relationship. The experimental group is exposed to the influence of the treatment under supervision and the control group is not exposed to the treatment.

RESEARCH DESIGN

The research design is conceptual structure of the research procedure. It provides planning on selection of subjects; data gathering devices, data analysis techniques in relation to objectives to research. An attempt by the researcher to maintain control over all factors that may affect the result of an experiment. In doing this, the researcher attempts to determine or predict what may occur.



DESIGN OF THE STUDY

Kothari (2004) defines research design as "the arrangement of conditions for collection and analysis of data in a manner

that aims to combine relevance to the purpose with economy in procedure".

For the present study the experimentor and chosen the pre-test and post-test equivalent group designs. The pre-test post-test equivalent group design has the following structure.

R O_1 X O_2 O_1 O_3 = Pre-tests

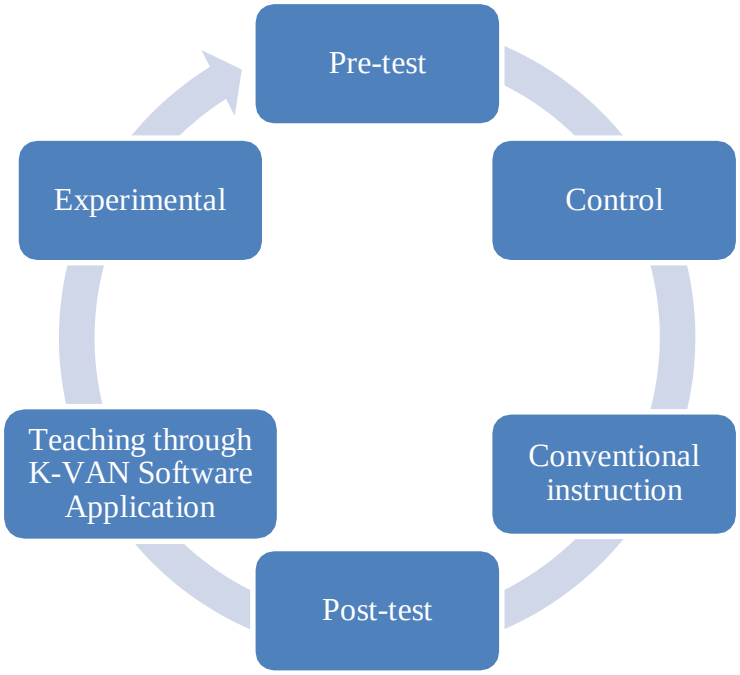
R O_3 C O_4 O_2 O_4 = Post-tests

R – Random assignment of subjects to groups

X – Exposure of groups to an experimental condition

C – Control Condition

In this design pre-tests (O_1 O_3) are administered to the experimental and control groups before the experimentation and post-tests (O_2 O_4) are conducted after the treatment period. The design of the present study is shown below.



ESSENTIALS OF EXPERIMENTAL RESEARCH

- Manipulation of an independent variable
- The attempt is made to all other variables except the dependent variable constant-control
- Effect is observed of the manipulation of the independent variable on the dependent variable
- Experimental control attempts to predict events that will occur in the experimental setting by neutralizing the effects of other factors.

STEPS INVOLVED IN CONDUCTING AN EXPERIMENTAL STUDY

- Identify and define problem

- Formulate hypotheses and deduce their consequences
- Construct an experimental design that represents all the elements, conditions and relations of the consequences.
- Select sample of subjects.
- Group or pair subjects.
- Identify and control non experimental factors
- Select or construct and validate instruments to measure outcomes
- Conduct pilot study
- Determine place, time and duration of the experiment.
- Conduct the experiment
- Compile raw data and reduce to usable form
- Apply an appropriate test of significance

SAMPLE

Based on the procedure described in the second chapter, the sample of the study consists of 40 students studying VIII standard State Board syllabus at St. Ignatius Convent Higher Secondary school, Palayamkottai in

Tirunelveli district, Tamilnadu. The sample includes girls only.

DIVIDING THE SAMPLE INTO TWO EQUIVALENT GROUPS

Student having same range (I.Q 90 – 100) of intelligence and basic computer operation skills are divided in equal numbers at random into two groups. Each group consists of 20 girls.

TOOLS USED IN THIS STUDY

The investigator has used the following tools for her research:

1. K-VAN Software Application developed and validated.
2. Intelligence test standardized by R.B. Cattel.
3. Basic computer operation skills.
4. Pre-test and Pro-test.
5. Objective type questionnaire.

DESCRIPTION OF THE TOOL

DEVELOPING AND VALIDATING THE K-VAN SOFTWARE LEARNING

- Identify a list of instructional objectives for the content of selected units.
- The investigator prepared the K-VAN Software (Text, animated pictures and back-voice) scripts, based on the instructional objectives with subject experts. The scripts for the K-VAN Software instruction are produced in two stages, the draft script and the final draft script. The draft script is scrutinized and the final script is produced by incorporating the suggestions of the experts and the changes perceived a necessary in the draft script.
- The investigator developed K-VAN Software application with the assistance of experts in the field of Computer programming language.

For this present study the K-VAN Software learning program has been developed in Adobe Flash CS3. It provides multimedia platform to attract the sense of the learner for easy and happy learning. The English

Vocabulary portion of root words, meanings, phonemes are taught. All the learning modules are arranged logically based on the psychological principles from easy to difficult, simple to complex and from the known to unknown.

ESTABLISHMENT OF VALIDITY FOR THE K-VAN SOFTWARE

APPLICATION

The content validity for the K-VAN Software is established with the help of subject experts in English Vocabulary.

CONSTRUCTION AND VALIDATION OF PRE-TEST POST –TEST QUESTION PAPER

In this present study the investigator used same question papers for pre and post - test. The questions are prepared and validated. Totally 45 items are selected in the following manner.

Blue print of the test items

Knowledge	Understanding	Application	Total
1,2,3,4,10,11,12,14,17, 19,20,22, 24,26,32,33,34,36, 37,38,39,42,45	5,6,9,13,15,16,21,25 ,29, 41,43,44	7,8,18,23,27,28, 30, 31,35,40	
23	**12**	**10**	**45**

In the above table the numbers represents the questions based on various objectives. Then they are subjected to item analysis

ITEM ANALYSIS

Item analysis is an important step in tool construction. Item analysis is made up of two components i.e Difficulty index and Discriminative power. Both these components enable the investigator to refine the tool by identifying the most suitable items to be included in the final tool.

The Difficulty index refers to the level of difficulty of each item in comparison with other remaining items. The difficulty index is calculated by the formula

Difficulty index = $(R_U + R_L) / T$

R_U – number of students who answered correctly in the upper group

R_L – number of students who answered correctly in the lower group

T - Total number of students

The Discriminative power of a test item is determined by the extent to which the given item is discriminated among examines who differ sharply in the function measured by the test as a whole. The discriminative power is calculated by the formula

Discriminative power = $(R_U - R_L) (T/2)$

Where R_U – number of students who answered correctly in the upper group

R_L – number of students who answered correctly in the lower group

T - Total number of students

A test item whose discriminative power is 0.2 or more is accepted.

A discriminating power is usually expressed as a decimal. If it has a positive value, the item has positive

discrimination. This means that a larger proportion of the more knowledgeable students than poor students got the item correct, if the value is zero the item has zero discrimination. This can occur because the item is too easy or too hard or because it is ambiguous.

If more low achievers than higher achievers get the item correct, one would obtain a negative discrimination. With a small number of students, this may be a chance result but it may indicate that the item is ambiguous or miskeyed.

Discriminating Power		**Difficulty Level**	
0.4 and above	Excellent item	Between 0.4 and 0.6	Average Difficult
Between 0.4 and 0.2	Good	Between 0.2 and 0.4	Difficulty item
Between 0.2 and 0.3	Average item	Between 0.6 and 0.8	Easy item
Between 0.2 and 0.1	Requires improvement	Between 0.8 and 1.0	Very Easy item
Less than 0.1	Item to be dropped or condemned	Between 0 and 0.2	Very difficulty item

STEPS FOR CALCULATING ITEM ANALYSIS

a) 40 students are selected and the 45 items are given to them.

b) The answers given by them are scored.

c) After the valuation, the individual total marks of all students from the highest to the lowest are arranged.

d) The upper 27% and the lower 27% are selected.

e) Then the difficulty index and the discriminative power are calculated by the above formulae.

ITEM ANALYSIS

ITEM NO.	D DIFF.INDEX $(R_U + R_L)/T$	= DISC.POWER $(R_U - R_L)(T/2)$
1	1	0
2*	0.6	0.4
3*	0.3	0.6
4	0.3	-0.2
5	0.4	0
6*	0.8	0.4
7	0.6	0
8	0	0
9*	0.6	0.4

10*	0.4	0.4
11*	0.5	0.2
12*	0.3	0.4
13	1	0
14*	0.7	0.6
15	0.7	-0.6
16*	0.5	0.6
17*	0.3	0.2
18*	0.3	0.4
19	0.8	0
20	0.4	0
21*	0.1	0.4
22	0.2	-0.4
23*	0.7	0.4
24	0.6	0
25*	0.4	0.4
26*	0.3	0.4
27	0.6	-0.4
28	0.2	-0.4
29*	0.4	0.4

30*	0.5	0.6
31*	0.3	0.6
32*	0.5	0.4
33*	0.6	0.4
34*	0.3	0.6
35*	0.3	0.2
36*	0.5	0.6
37*	0.7	0.2
38*	0.7	**0.6**
39*	0.2	0.4
40*	0.5	0.2
41	0.5	-0.6
42*	0.7	0.2
43	0.5	-0.2
44*	0.5	0.4
45*	0.5	0.6

T-Total number of students in both upper and lower groups. The items which are marked as '*' are chosen for the final tool. Finally, 30 items are selected for the post test. Finally, 30 items are selected for the post test. The items 4,15,22,27,28,41,43 have negative discriminative power.

The items 1,8,13 are considered to be very easy and the items 5, 7,19,20,24 are considered to be very difficulty item, so they are drop out from the list. The revised question paper consists of 30 items only.

Blue print of the revised question paper is given below.

Knowledge	**Understanding**	**Application**	**Total**
1,2,5,6,7,8,10,14,18, 19,20,22, 23,24,25,27,29	3,4,9,12,13, 15,28	11,16,17,21, 26,30	
17	**7**	**6**	**30**

RELIABILITY

In the present study the investigator used test-retest method for establishing reliability. The investigator has given the tool to 10 VIII standard students studying in St. Ignatius Convent Higher Secondary School, Palayamkottai. After 20 days, the same test is given to the same set of students. Then the product movement correlation coefficient is used to find out the reliability. The value obtained is found to be 0.77.

VALIDITY

The item validity is already found by doing item analysis. In order to establish content validity the tool is given to a panel of PG Assistant Teachers. Then the items are modified and some are eliminated on the basis of remarks given by experts, finally the tool has been reduced. Thus the content validity is established.

The intrinsic validity is given by the square root of its reliability. The intrinsic validity is found as 0.88.

INTERNAL VALIDITY AND EXTERNAL VALIDITY OF THE DESIGN

Campbell and Stanley (1996) described two types of experimental validity, internal validity and external validity. An experiment ha internal validity to the extent that the factors that have been manipulated (independent variables) in the experimental setting. The internal validity refers to the amount of control the researcher has over the treatment, subjects and the instruments. Internal validity is affected by the factors like history, maturation, experimental mortality, experimental bias, reactivity the instruments, etc.

External validity is the extent to which the variable relationships can be generalized to other settings, other treatment variables, other measurement variables, and other populations. External validity is affected by the factors like interferences of prior treatment, interaction effect of testing, the artificially of the experimental setting, interaction of selection and treatment, etc.

In the experimental study, when one type of validity increases, the other type decreases. Some compromise is inevitable so that a reasonable balance may be established between control and generalizability – between internal and external validity. The investigator has maintained a judicial trade between the two variables .

OBJECTIVITY

A test can be considered objective if the scoring of the test is not affected in any way by the examiner's personal judgment. Since all the items are of objective type, there is no chance or the investigator to be partial. So, the tool has objectivity.

SCORING

The students have to choose the correct answer from the given answer choices. The correctly answered questions are given one mark and zero mark for the wrong answers. The total score is 30 marks.

CONDUCTING THE EXPERIMENT

i) ADMINISTRATION OF THE PRE-TEST

Just before the treatment the entry behavior test is administered and it is found out that all the selected samples possess the entry behavior. Then the pupils are made to be elated conveniently and strict invigilation is done to avoid consultation. Pre-test is administered and the results are analyzed. The pre-test question papers are presented in Appendix.

The means of the pre-test scores o both experimental and control group are almost equal. Less difference is seen in the case of standard deviations well. Hence, the Experimental and Control Group are matched.

ii) TREATMENT

The investigator conducted this equipment for 30 days. The Experimental group sample of 20 students was taken to

the English Language lab. These students were taught with K-VAN Software way of instruction. Corrective feedback is given wherever necessary. When any point is not learnt additional time is given and also the media material is screened once again wherever necessary.

The control group is taught in the conventional method by the investigator herself. The investigator trained them in such a way that there is no any experimental bias.

iii) ADMINISTRATION OF THE POST-TEST

The post-test questions are given to the students of both the groups and their results are statistically analyzed to find out efficiently and effectiveness of K-VAN Software application in teaching English Vocabulary. While conducting the post-test strict and effective monitoring and supervision I taken against malpractice. The post-test question papers are presented in Appendix. Scoring key is also presented in Appendix.

CONTROLLING THE VARIABLES

The investigator carefully controlled between the variance in the following manner;

Both the control and experimental group

- Have same teacher.
- Have same sex.
- Have same age group (14-15) only.
- Have same school only.
- Have same subject portions only.
- Have same computer operation skills only.

STATISTICAL TECHNIQUES USED

Statistical techniques serve the fundamental purpose of the description and inferential analysis. The following statistical techniques are used in the study.

DIFFERENTIAL ANALYSIS

It provides inferences involving determination of statistical significance of difference between groups with reference to selected variables. In the present investigation 't' values were calculated to test the significant difference between the mean scores o sub variables. Using the following formula.

1. Arithmetic mean

The investigator has used the following formula for calculating arithmetic mean.

$$\bar{X} = \frac{\Sigma x}{N}$$

Where,

$\bar{X}$ = Arithmetic mean

$\sum x$ = The sum scores of all items

N = Total number of items

2. Standard Deviation

The investigator has used the following formula for calculating standard deviation.

$$\sigma = \frac{1}{N}\sqrt{N\sum x^{2} - (\sum x)^{2}}$$

Where,

σ = Standard deviation

$\sum x$ = Sum of scores

$\sum x^2$ = Sum of the scores square

N = Total number of items

3. 't' test (Independent test/ Dependent test)

The investigator has used the following formula for calculating 't'

$$PSD = \sqrt{\frac{(X_1 - M_1)^2 + (X_2 - M_2)^2}{(N_1 - 1) + (N_2 - 1)^2}}$$

$$SED = PSD \times \sqrt{\frac{N_1 + N_2}{N_1 \times N_2}}$$

$$t = \frac{M_1 - M_2}{SE}$$

Where,

PSD = Pooled Standard Deviation of the two groups

M_1 = Mean of the first group

M_2 = Mean of the second group

$X_1 \& X_2$ = Individual raw scores in the two groups

$N_1 \& N_2$ = Size of the second group

CONCLUSION

The research design facilitates the researcher to complete the various operations efficiently by yielding maximum information with minimum expenditure of effort, time, and money. The investigator analyzes the performance o experimental and control group and find out the mean differences by using t-test technique. The test scores obtained are subjected to statistical analysis.

CHAPTER IV

ANALYSIS OF DATA

INTRODUCTION

Statistical analysis is the process of collecting, analysing and interpreting the numerical data. Analysis of data means studying the tabulated material in order to determine inherent facts or meanings. It involves breaking down existing complex factors into simple parts and putting the parts together in new arrangements for the purpose of interpretation. So the collected data are studied in many possible ways to explore the facts and it is done by the investigator under the following headings.

ANALYSIS OREELATED TO CONTROL GROUP

Table 4.2.1

LEVEL OF PRE-TEST SCORES IN ENGLISH VOCABULARY OF CONTROL GROUP VIII STD STUDENTS

Pre-Test	Low		Moderate		High	
	N	%	N	%	N	%
Knowledge	6	20.0	20	66.7	4	13.3
Understanding	11	36.7	18	60.6	1	3.3
Application	10	33.3	17	56.7	3	10.0
Total	4	13.3	24	80.0	2	6.7

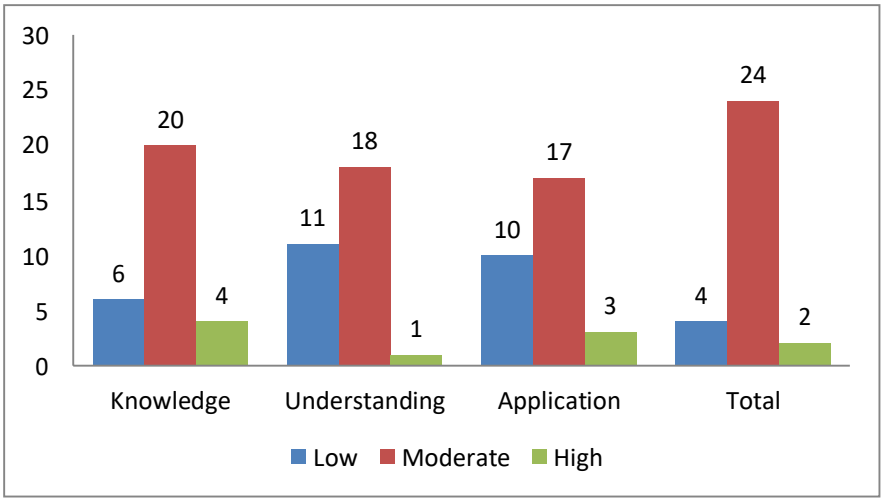
It is inferred from the above table that 20% of VIII standard control group students have low level of knowledge in pre-test in English Vocabulary,66.7% of them have moderate and 13.3% of them high level of knowledge in pre- test in English Vocabulary.

It is inferred from the above table that the 36.7% of VII standard control group students have low level of understanding in pre - test in English Vocabulary ,60.0% of them have moderate and 3.3% of them high level of understanding in pre test in English Vocabulary.

It is inferred from the above table that 33.3% of VIII standard control group students have low level of application in pre test in English Vocabulary,56.7% of them have moderate and 10% of them have high level of application in pre test in English Vocabulary.

It is inferred from the above table that 13.3 % of VIII standard students control group students have low level of in pre test in English Vocabulary, 80% of them have moderate and 6.7% of them high level in pre test in English Vocabulary.

FIGURE SHOWING THE LEVEL OF PRE-TEST SCORES IN ENGLISH VOCABULARY OF CONTROL GROUP VIII STD STUDENTS



4.2.2 LEVEL OF POST-TEST SCORES IN ENGLISH VOCABULARY OF CONTROL GROUP IN VIII STANDARD STUDENTS

Pre-Test	Low		Moderate		High	
	N	%	N	%	N	%
Knowledge	5	16.7	20	66.7	5	16.7
Understanding	5	16.7	21	70.0	4	13.3
Application	12	40.0	16	53.3	2	6.7
Total	8	26.7	19	63.3	3	10.0

It is inferred from the above table that the 16.7% of VIII standard control group students have low level of knowledge in post test in English Vocabulary, 66.7% of them have moderate and 16.7% of them high level of knowledge in post test in English Vocabulary.

It is inferred from the above table that the 16.7% of VIII standard control group students have low level of understanding in post test in English Vocabulary,70.0% of them have moderate and 13.3% of them high level of understanding in post test in English Vocabulary.

It is inferred from the above table that the 26.7% of VIII standard control group students have low level of understanding in post test in English Vocabulary,63.3% of them have moderate and 10 % of them high level of understanding in post test in English Vocabulary.

FIGURE SHOWING THE LEVEL OF POST-TEST SCORES IN ENGLISH VOCABULARY OF CONTROL GROUP VIII STD STUDENTS

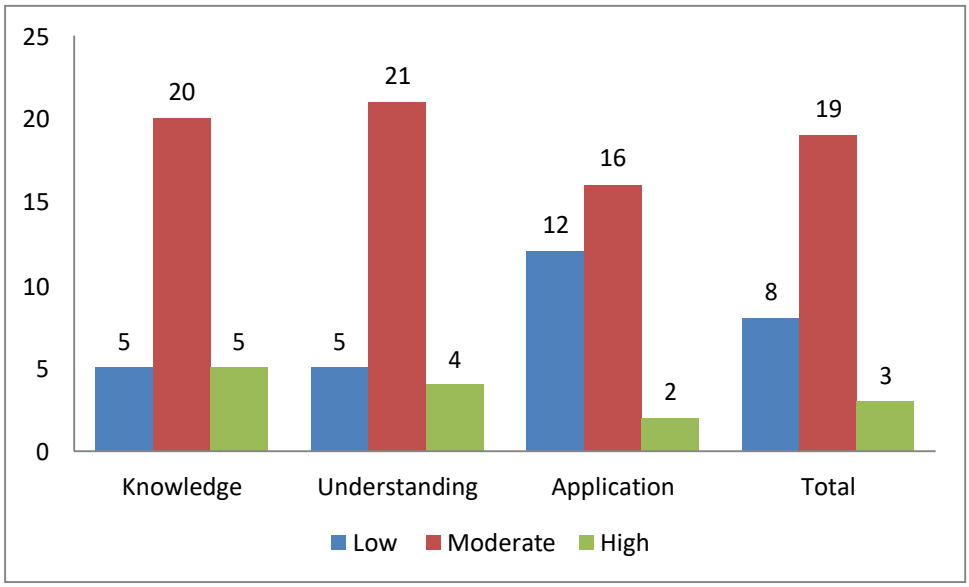


TABLE 4.2.3

LEVEL OF GAIN SCORES IN ENGLISH VOCABULARY OF CONTROL GROUP VII STD STUDENTS

Gain Score	Low		Moderate		High	
	N	%	N	%	N	%
from Pre and Post test	9	30.0	18	60.0	3	10.0

It is inferred that from the above table that the 30% of VIII standard control group students have low level gain score in post-test in English Vocabulary ,60% of them have moderate and 10 % of them have moderate and 10 % of them high level of gain score in post-test in English Vocabulary.

FIGURE SHOWING THE LEVEL OF GAIN SCORES IN ENGLISH VOCABULARY OF CONTROL GROUP VIII STD STUDENTS

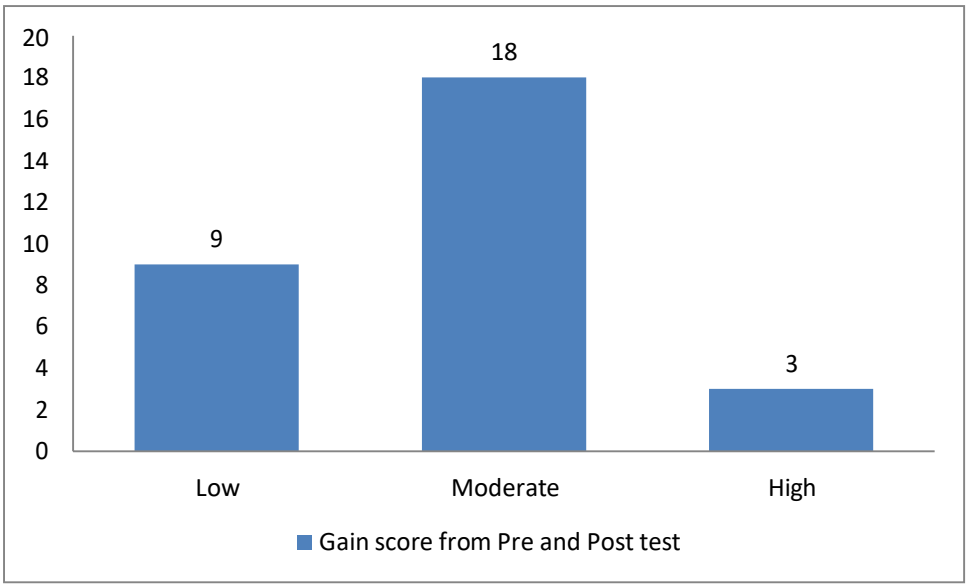


Figure-4.2.3

ANALYSIS RELATED TO EXPERIMENTAL GROUP

4.3.1 LEVEL OF PRE-TEST SCORES IN ENGLISH VOCABULARY OF EXPERIMENTAL GROUP VIII STD STUDENTS

Table 4.3.1

LEVEL OF PRE –TEST SCORES IN ENGLISH VOCABULARY OF EXPERIMENTAL GROUP VIII STD STUDENTS

Pre-Test	Low		Moderate		High	
	N	%	N	%	N	%
Knowledge	9	30.0	18	60.0	3	10.0
Understanding	6	20.0	19	63.3	5	16.7
Application	15	50.0	15	50.0	0	0.0
Total	4	13.3	23	76.7	3	10.0

It is inferred that from the above table that the 30% of VIII standard experimental group students have low level of knowledge in pre test in English Vocabulary ,60% of them have moderate and 10 % of them high level of knowledge in pre-test in English Vocabulary.

It is inferred that from the above table that the 20% of VIII standard experimental group students have low level of understanding in pre test in English Vocabulary ,63.3% of them have moderate and 16.7 % of them high level of understanding in pre-test in English Vocabulary.

It is inferred that from the above table that the 50% of VIII standard experimental group students have low level of application in pre test in English Vocabulary ,50% of them have moderate and none of them high level of application in pre-test in English Vocabulary.

It is inferred that from the above table that the 13.3% of VIII standard experimental group students have low level in pre test in English Vocabulary ,76.7% of them have moderate and 10 % of them high level in pre-test in English Vocabulary.

FIGURE SHOWING LEVEL OF PRE –TEST SCORES IN ENGLISH VOCABULARY OF EXPERIMENTAL GROUP VIII STD STUDENTS

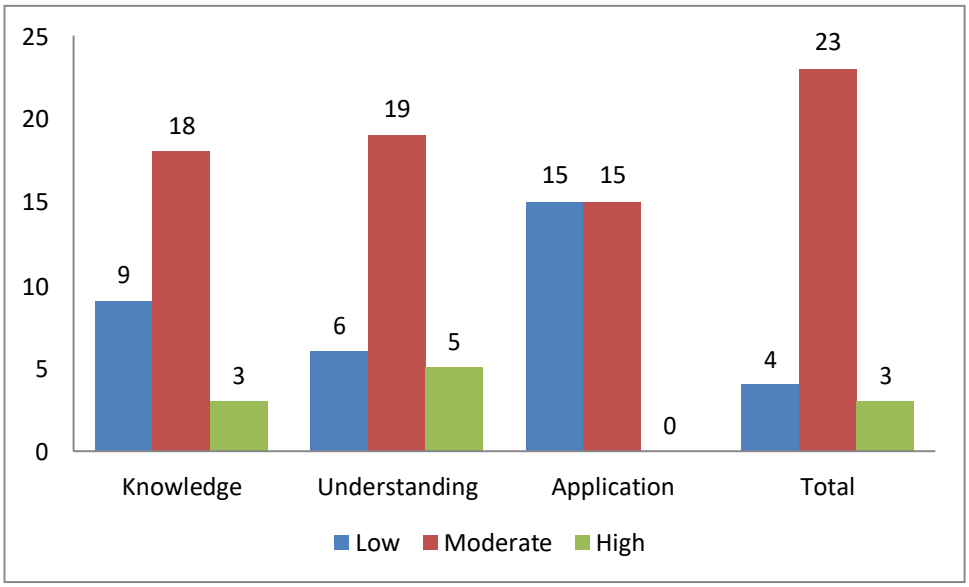
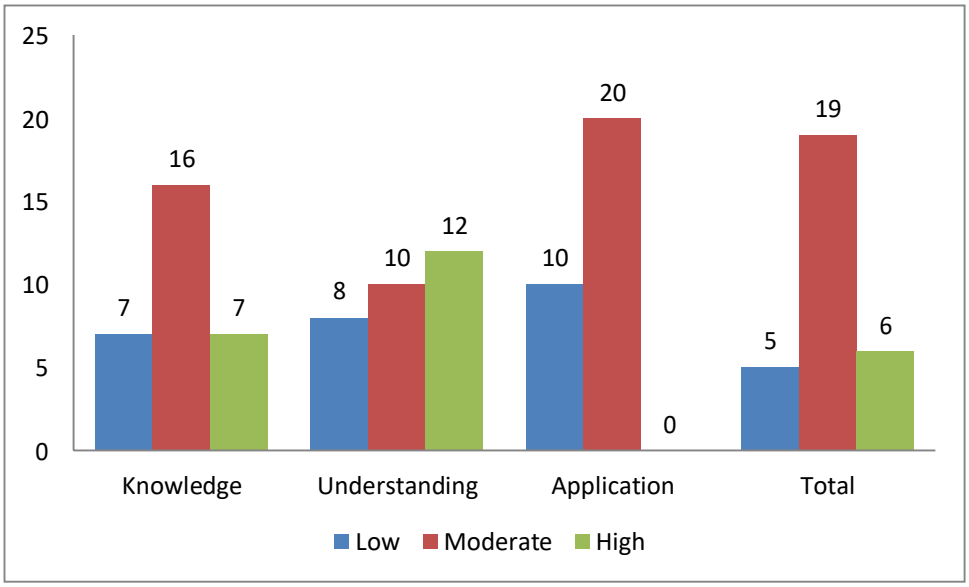


Figure 4.3.1

FIGURE SHOWING THE LEVEL OF POST-TEST SCORES IN ENGLISH VOCABULARY OF EXPERIMENTAL GROUP VIII STD STUDENTS



4.3.3 LEVEL OF GAIN SCORES IN ENGLISH VOCABULARY OF EXPERIMENTAL GROUP VIII STD DTUDENTS

Table 4.3.3

LEVEL OF GAIN SCORES IN ENGLISH VOCABULARY OF EXPERIMENTAL GROUP VIII STD STUDENTS

Gain Score from Pre and Post test	**Low**		**Moderate**		**High**	
	N	%	N	%	N	%
	6	20.0	19	63.3	5	16.7

FIGURE SHOWING THAT LEVEL OF GAIN SCORES IN ENGLISH VOCABULARY OF EXPERIMENTAL GROUP VIII STD STUDENTS

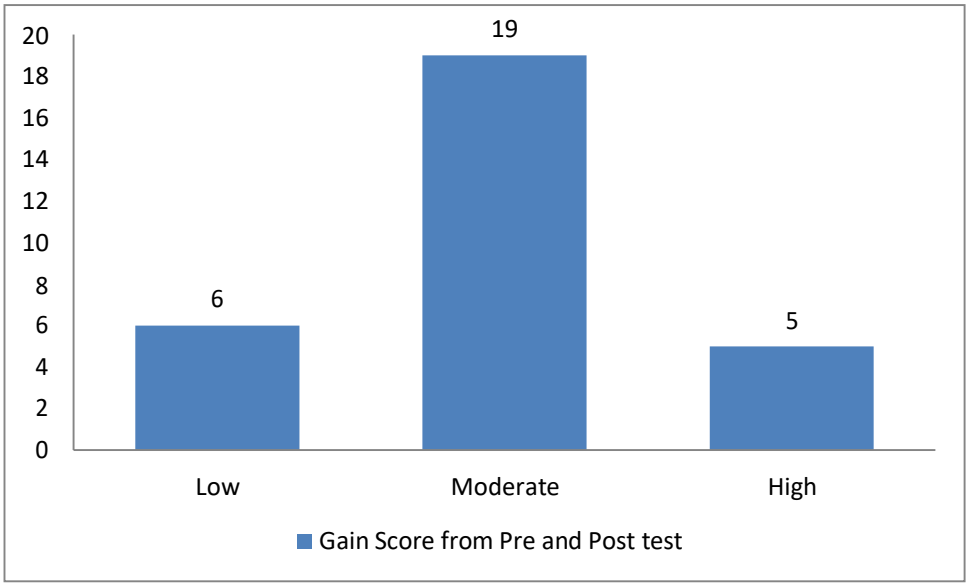


Figure 4.3.3

It is inferred that from the above table that the 20% of VIII standard experimental group students have low level gain score in pre test in English Vocabulary ,63.3% of them have moderate and 16.7 % of them high level of gain score in post-test in English Vocabulary.

HYPOTHESIS TESTING

HYPOTHESIS 1

There is no significant difference between Pre-test and Post test scores in English Vocabulary.

Table 4.4.1

DIFFERENCE BETWEEN PRE-TEST AND POST – TEST SCORES IN ENGLISH VOCABULARY OF CONTROL GROUP VIII STD STUDENTS

Pre and Post test	Pre-test (N=30)		Post-test (N=30)		Calculated 't' Value	Remarks at 5% Level
	Mean	SD	Mean	SD		
Knowledge	9.13	1.943	11.33	2.264	8.610	S
Understanding	3.80	1.215	4.33	1.061	2.804	S
Application	2.97	1.129	3.87	1.106	5.835	S
Total	15.90	2.454	19.53	3.421	9.995	S

(At 5% level of significance, for 29df, the table value of 't' is 2.04)

It is inferred from the above table that there is significant difference between Pre and Post English Vocabulary scores in English Vocabulary of control group VIII Std students.

While comparing the mean scores of VIII standard control group students in pre and post English Vocabulary test in terms of knowledge, understanding, application and achievement in total, the post test scores are better than pre test in English Vocabulary.

FIGURE SHOWING THE DIFFERENCE BETWEEN PRE-TEST AND POST-TEST SCORES IN ENGLISH VOCABULARY OF CONTROL GROUP VIII STD STUDENTS

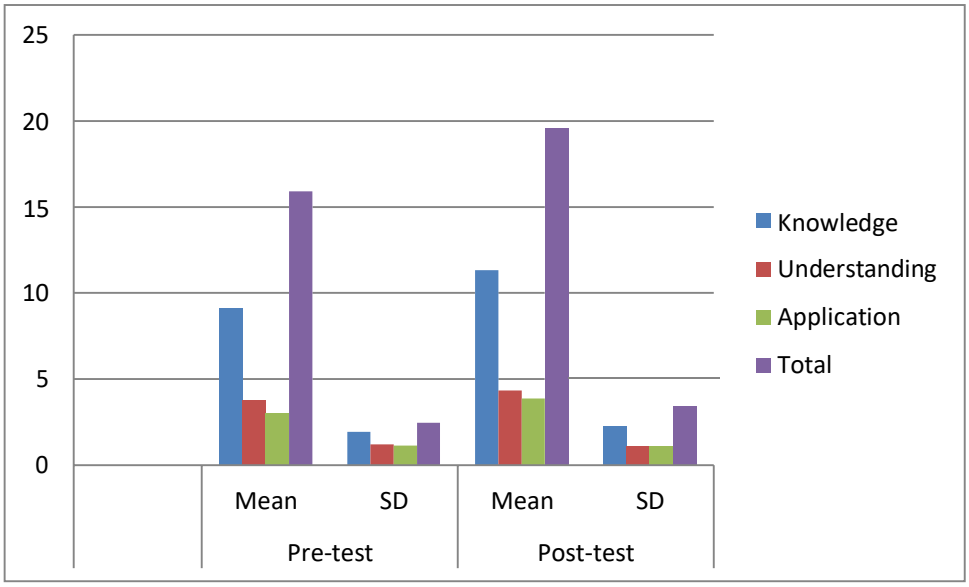


Figure-4.4.1

Hypothesis 2

There is no significant difference between pre-test and post-test scores in English Vocabulary of experiment group VIII Std students.

Table 4.4.2

DIFFERENCE BETWEEN PRE-TEST AND POST-TEST SCORES IN ENGLISH VOCABULARY OF EXPERIMENTAL GROUP VIII STD STUDENTS

Pre and Post test	Pre-test (N=30)		Post-test (N=30)		Calculated 't' Value	Remarks at 5% Level
	Mean	SD	Mean	SD		
Knowledge	9.87	2.013	15.30	1.264	16.241	S
Understanding	4.47	1.074	6.10	0.885	7.527	S
Application	3.47	1.224	5.57	0.728	9.265	S
Total	17.80	2.455	26.97	2.092	22.838	S

(At 5% level of significance, for 29 df, the table value of 't'is 2.04)

It is inferred from the above table that there is significant difference between Pre and Post English Vocabulary scores in English Vocabulary of control group VIII Std students.

While comparing the mean scores of VIII standard control group students in pre and post English Vocabulary test in terms of knowledge, understanding, application and achievement in total, the post test scores are better than pre test in English Vocabulary.

FIGURE SHOWING THE DIFFERENCE BETWEEN PRE-TEST AND POST-TEST SCORES IN ENGLISH VOCABULARY OF EXPERIMENTAL

GROUP VIII STD STUDENTS

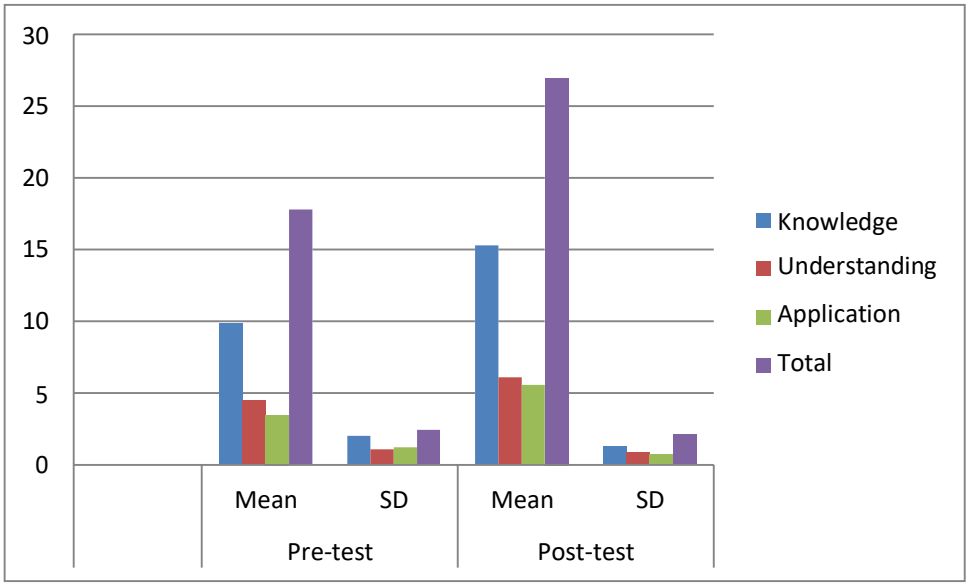


Figure -4.4.2

ANALYSIS RELATED TO COMPARISON OF CONTROL AND EXPERIMENTAL GROUP

HYPOTHESIS 3

There is no significant difference between control and experimental group VIII std students in their pre-test in English Vocabulary with regard to knowledge, understanding and application.

Table 4.4.4

DIFFERENCE BETWEEN CONTROL AND EXPERIMENTAL GROUP VII STD STUDENTS IN THEIR PRE-TEST IN ENGLISH VOCABULARY

Pre -test	Control Group (N=30)		Experimental Group(N=30)		Calculated 't' Value	Remarks at 5% Level
	Mean	SD	Mean	SD		
Knowledge	9.13	1.943	9.87	2.013	1.436	NS
Understanding	3.80	1.215	4.47	1.074	2.02	NS
Application	2.97	1.129	3.47	1.224	1.644	NS
Total	15.90	2.454	17.80	2.455	2.031	NS

(At 5% level of significance, for 29 df, the table value of 't' is 2.04)

It is inferred from the above table that there is no significant difference between control and experimental group VIII std students in their Pre - test in English Vocabulary with regard to knowledge, understanding, application in total.

FIGURE SHOWING THE DIFFERENCE BETWEEN CONTROL AND EXPERIMENTAL GROUP VII STD STUDENTS IN THEIR PRE-TEST IN ENGLISH VOCABULARY

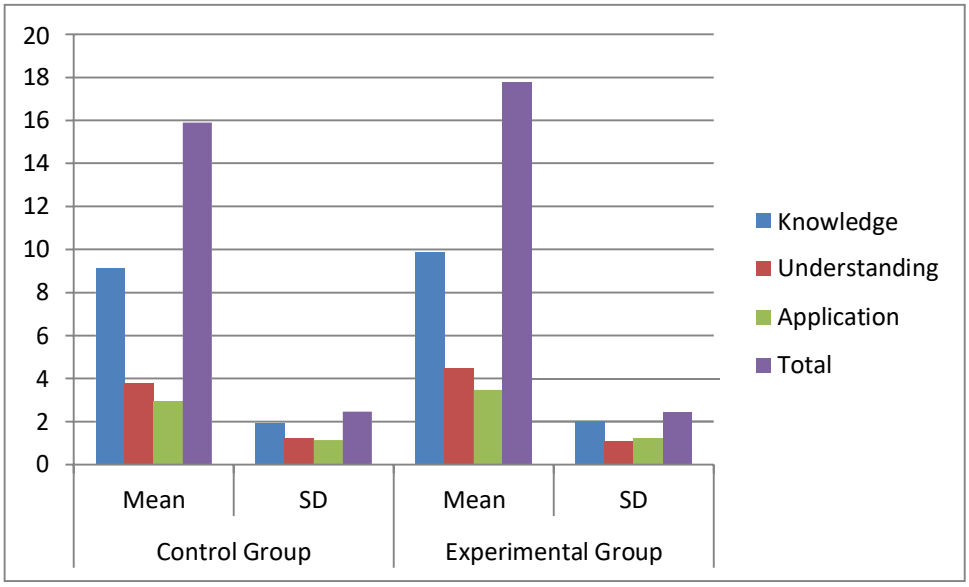


Figure-4.4.3

HYPOTHESIS 4

There is no significant difference between control and experimental group VIII std students in their post-test in English Vocabulary with regard to knowledge, understanding and application.

Table 4.4.4

DIFFERENCE BETWEEN CONTROL AND EXPERIMENTAL GROUP VIII STD STUDENTS IN THEIR POST TEST IN ENGLISH VOCABULARY

Pre -test	Control Group (N=30)		Experimental Group (N=30)		Calculated 't' Value	Remarks at 5% Level
	Mean	SD	Mean	SD		
Knowledge	11.33	2.264	15.30	1.264	8.379	S
Understanding	4.33	1.061	6.10	0.885	7.003	S
Application	3.87	1.106	5.57	0.728	7.033	S
Total	19.53	3.421	26.97	2.092	10.152	S

(At 5% level of significance, for 29 df the table value of 't' is 2.04)

It is inferred from the above that there is significant difference between control and experiment group VIII STD students in their post-test in English Vocabulary with regard to knowledge, application and in English Vocabulary in total.

While comparing the mean scores of control and experimental group VIII std students in their post-test in English with regard to knowledge, understanding, application of English vocabulary, the experimental group students are better in their in their English Vocabulary.

FIGURE SHOWING THE DIFFERENCE BETWEEN CONTROL AND EXPERIMENTAL GROUP VIII STD STUDENTS IN THEIR POST-TEST IN ENGLISH VOCABULARY

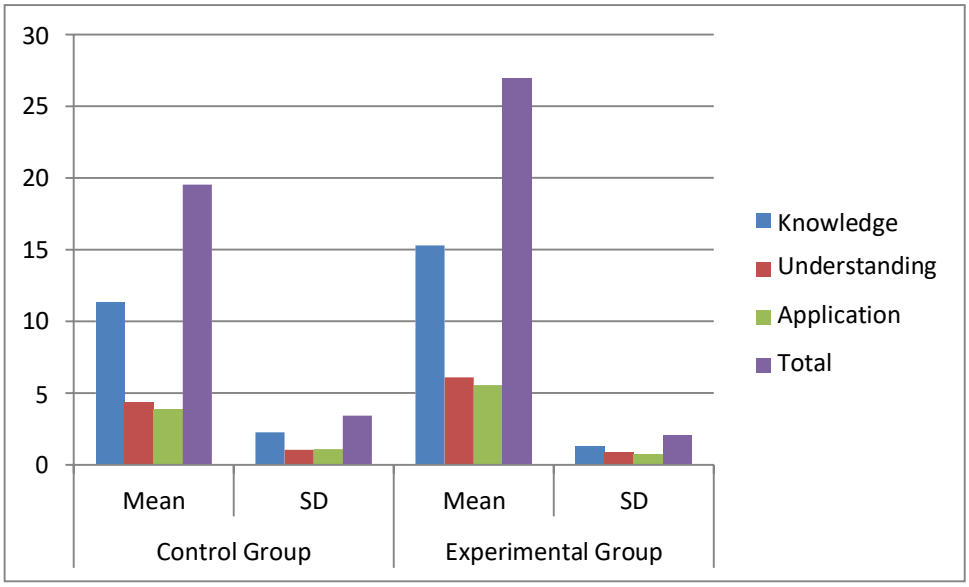


Figure - 4.4.4

HYPOTHESIS 5

There is no significant difference between control and experimental group VIII std students in their gain score in post-test in English Vocabulary.

Table 4.4.5

DIFFERENCE BETWEEN CONTROL AND EXPERIMENTAL GROUP VIII STD STUDENTS IN THEIR GAIN SCORE IN POST –TEST

Gain Score	Control Group (N=30)		Experimental Group (N=30)		Calculated 't' Value	Remarks at 5% Level
	Mean	SD	Mean	SD		
	3.63	1.991	9.17	2.198	10.218	S

(At 5% level of significance, for 29 df, the table value of 't' is 2.04)

It is inferred from the above table that there is no significance difference between control and experimental group VIII Std students in their gain score in post-test in English Vocabulary.

While comparing the mean scores of control and experimental group VIII Std students in their gain score in post-test in English Vocabulary, the experimental group students are better in their gain score in post-test in English Vocabulary.

FIGURE SHOWING THE DIFFERENCE BETWEEN CONTROL AND EXPERIMENTAL GROUP VIII STD STUDENTS IN THEIR GAIN SCORE IN POST-TEST

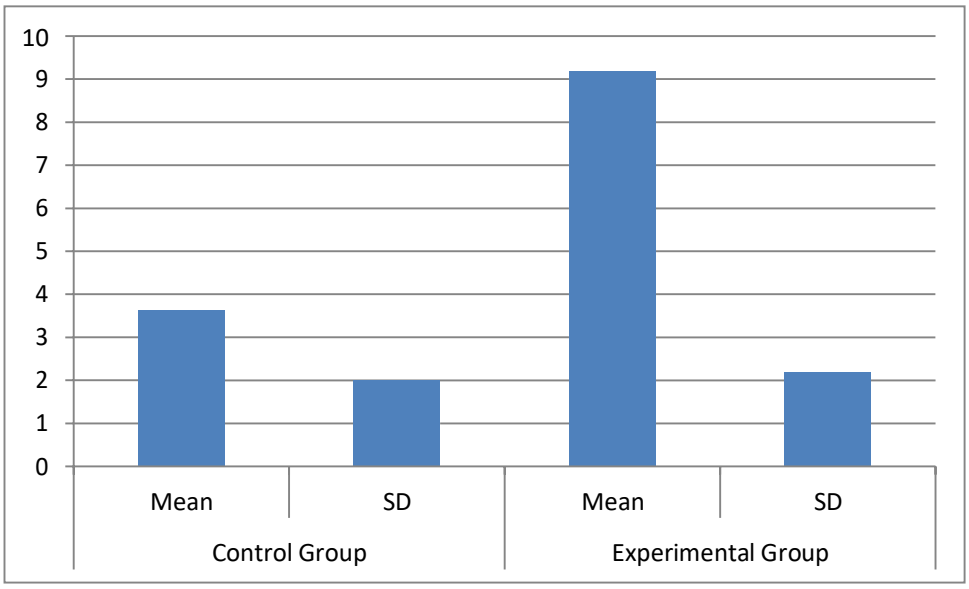


Figure-4.4.5

CONCLUSION:

This chapter has done a detailed analysis of the hypothesis formulated. For this detailed statistical technique like mean SD and 't' test have been used. This chapter also gives an overview of the findings and deals with the interpretation of the findings and deals with interpretation of the findings.

CHAPTER V

FINDINGS, INTERPRETATIONS, EDUCATIONAL IMPLICATIONS AND CONCLUSION

INTRODUCTION:

Interpretation refers to the task of drawing inferences from the collected fact after an analytical and/or experimental study. The aim of the present study is to find the effectiveness useful in present day educational system and its use in teaching- learning process. In this study, the experimental and the control group are benefited by their respective methods. But the experimental group with K-VAN Software is found to be more effective than the traditional method.

MAJOR FINDINGS:

The major findings which have emerged from the study are as follows:

1. There is significant difference between Pre -test and Post-test score in English vocabulary of control group VIII STD students.

2. There is significant difference between Pre -test and Post-test score in English vocabulary of experimental group VIII STD students.
3. There is no significant difference between control and experimental group VIII STD students in their Pre- test in English Vocabulary with regard to knowledge, understanding and application.
4. There is significant difference between control and experimental group VIII STD students in their Post-test in English Vocabulary with regard to knowledge, understanding and application.
5. There is significant difference between control and experimental group VIII STD students in their gain score in Post-test in English vocabulary.

Interpretation:

These findings show that the two groups of the present study are equal in the Pre-test whereas the students of the experimental group performed well when they are taught with the innovative K-VAN Software. This shows that K-VAN software teaching technique is effective than the traditional lecture method. In pre-test the students

performed equally in all the dimensions irrespective of whether they belong to the experimental or control group. The post-test scores in the control group and the experimental group also showed significant difference. There is significant difference between control and experimental group students with respect to the objective knowledge. Since subject contents are presented with the help of pictures, animations and sound effects, the acquisition of knowledge is more for experimental group. The K-VAN software contained so many visuals which when shown before the students (animations and images) enhanced the effectiveness of their learning.

The post-test scores in the control group and the experimental group showed significant difference with respect to the objective ‘understanding’. The mean scores of the experimental group are higher than the control group. This may be due to the presentations designed in the K-VAN software is attractive and pulled the attention of the students towards the subject content. In K-VAN software, the complex matter is simplified a presented according to the student’s level. Student’s engagement is significantly

increased when K-VAN software is used in conjunction with a classroom audio system. The students understand all the digital content at their own pace. So the students in the experimental group might have shown higher performance in the understanding level. The post-test scores in the control group and the experimental group show significant difference in with respect to their objective application. The mean scores of the experimental group are higher than the control group. Because the spontaneous lessons are easily supported with K-VAN Software helps the learner for self–pacing and discovery. The use of K-VAN software in the classroom has been seen to increase the students' enjoyment because they are able to be physically involved by listening the content, speaking and texting the learned content for evaluation. So the students of the experimental group have more practice in applying the concepts learnt since it is performed through the self-learning. Thus the students in the experimental group might have shown higher performance in the application level.

In the control group there is significant difference between the pre-test and post-test scores with respect to the

objectives. This may due to the fact that the students show interest to know about the topics from the pre-test. Thus, the experimental group is better than control group in attainment of their objectives this may due to innovative way of teaching through K-VAN software to enhance teaching as well as learning.

The ‘t’ test result show that the experimental group students are better than the control group students in gain score. This may be due to the fact that K-VAN Software is effective in teaching English Vocabulary for VIII STD students. Since the K-VAN Software teaching is very attractive so the student’s attention is drawn in the topic to be learnt.

The ‘t’ test result show that the experimental group students are better than the control group students in attainment of knowledge, understanding and objective level application in the gain score. This may due to the fact that the K-VAN Software has motivated the students to understand the concepts of English Vocabulary. Since the pictures animations, K-VAN tools, explanation of the lessons and saves the written work on the K-VAN Software,

it stuffed the fresh minds of the experimental group students very sharply. So the experimental group is better than control group in attainment of knowledge, understanding and application objectives.

In general K-VAN software is effective in teaching VIII standard students. The content is presented in the logical manner with K-VAN Software and multimedia effects. So the students are highly motivated to learn English Vocabulary in K-VAN Software Application.

EDUCATIONAL IMPLICATIONS OF THE STUDY

- New instructional techniques of assisting students through computers are to be explored by the teachers and researcher continuously.
- New patterns of interactive way of teaching using K-VAN software and its uses can lead to effective teaching-learning process of learning second language.
- Auto instrumental material like K-VAN software can be developed by teachers as a set of activities integral to the syllabus text book and curriculum complexes.

- Teachers of school can be given orientation to develop K-VAN software teaching.
- The uses of K-VAN software are found to be valid in enhancing the achievement.
- There is various way to develop the English software usage so as to make more interesting. Thus the teacher must be motivated by the school management and by the government to use this kind of ICT Applications for learning Second Language.

Conclusion:

This study has revealed a clear preference for K-VAN Software use by both teachers and students. The government is keen to promote the usage of technology so that it could be used in the unique and creative ways about and beyond that which is possible when teaching with normal whiteboard or other projection method we would argue that the uniqueness and the boon of the ICT Application for learning second language is possible through intersection between technical and pedagogic interactivity, so that this technology holds for collective meaning making through both dialogic interaction with one

another and physical interaction with English language software application.

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APPENDIX I

PRE -TEST QUESTION PAPER

1. He glared at the waiter with a look of ‘disdain’ on his face. Give the synonyms of the underlined word

   a. love b. scron c. accept d. luddite

2. Confide - Choose the antonym of this word

   a. to trust b. doubtful c. secret d. distrustful

3. Erratically - Choose the antonym of this word

   a. predictable b. stable c. unsteady d. unstable

4. Astounded - Choose the synonym of this word

   a. happy b. shocked c. enlighten d. clarify

5. Abbreviation of ‘memo’ is

   a. memory b. memor c. memorable d, memorandum

6. Exhaust - Choose the synonyms of this word

   a. refresh b. frazzle c. tireout d. active

7. The word ‘Obeisance’ share a same meaning as

   a. disobey b. obedience c. disobedience d. indiscipline

8. In the word ‘bifurcates’ – ‘furcate’ means

   a. combain b. divide c. subservient d. interest

9. Choose the synonyms of the word ‘dismally’

   a. blisful b. gleeful c. cheerless d. contentment

10. Choose the antonym of the word ‘guffaw’

    a. a deep silent b. restrained act c. burst of laughter

    b. d. bultoned up

11. Choose the snonym of the word ‘spate’.

    a. a fast flow b. trickled c. dribble d. drought

12. Identify the suffix for the prefix ‘in’

    a. tringued b. triga c. trigale d. tridig

13. The French word root word ‘crochir’ gives the meaning

    a. crouched b. laydown c. fallback d. sit

14. Miniature painting depict Indian culture - Choose the synonym for the underlined word

a. warp b. portray c. twist d. falsify

15. Identify the suffix word for spell

a. been b. bound c. counted d. dis

16. 'Seized his property' - Give the synonyms of the underlined word

a. given b. snatched c. shocked d. tired

17. What is the equivalent word for 'ambush'?

a. surprise attack b. surprise visit c. surprise gift

d. surprise person

18. Choose the antonym for the word 'wreathing'

a. cover b. protect c. break d. join

19. 'Pious' - Choose the synonyms for word

a. ungodly b. wicked c. spiritual d. haughty

20. Heave me yelp. The underlined word mean

a. spring b. sharp cry c. laugh d. scream

21. 'Physician' is one who practices

a. Electronics b. law c. medicine d. books

22. I am living in the outskirts of the village

a. border b. outpost c. center d. region

23. Asiff quarreled with his friend

a. fought b. differ c. peace d. fun

24. Find the antonym for 'nervously'

a. unsurprised b. confidentc. scared d. anxious

25. Pursuit - Choose the synonym

a. lose b. search c. find d. look

26. He is remarkable for his 'ingenuity'

a. dullness b. boring attitude c. intelligence d. creativity

27. Give the exact meaning for affair

a. event b. situation c. circumstance d. hobby

28. Choose the synonym for ‘plaintive’

a. sounding sad b. sounding happy c. hearty laugh

d. sounding excited

29. Choose the antonym for incredible

a. beleivable b. forgettable c. unbelievable d. memory

30. What’s is the meaning of ‘amurse’?

a. entertain b. ponder c. annoy d. upset

PRE – TEST ANSWER PAPER

Name :

Class :

Put a Tick mark in the Answer Column

Q.No	A	B	C	D	Q.No	A	B	C	D
1.	☐	☐	☐	☐	16.	☐	☐	☐	☐
2.	☐	☐	☐	☐	17.	☐	☐	☐	☐
3.	☐	☐	☐	☐	18.	☐	☐	☐	☐
4.	☐	☐	☐	☐	19.	☐	☐	☐	☐
5.	☐	☐	☐	☐	20.	☐	☐	☐	☐
6.	☐	☐	☐	☐	21.	☐	☐	☐	☐
7.	☐	☐	☐	☐	22.	☐	☐	☐	☐
8.	☐	☐	☐	☐	23.	☐	☐	☐	☐
9.	☐	☐	☐	☐	24.	☐	☐	☐	☐
10.	☐	☐	☐	☐	25.	☐	☐	☐	☐
11.	☐	☐	☐	☐	26.	☐	☐	☐	☐
12.	☐	☐	☐	☐	27.	☐	☐	☐	☐
13.	☐	☐	☐	☐	28.	☐	☐	☐	☐
14.	☐	☐	☐	☐	29.	☐	☐	☐	☐
15.	☐	☐	☐	☐	30.	☐	☐	☐	☐

APPENDIX I

APPENDIX I

PRE -TEST QUESTION PAPER

1. He glared at the waiter with a look of ‘disdain’ on his face. Give the synonyms of the underlined word

   a. love b. scron c. accept d. luddite

2. Confide - Choose the antonym of this word

   b. to trust b. doubtful c. secret d. distrustful

3. Erratically - Choose the antonym of this word

   b. predictable b. stable c. unsteady d. unstable

4. Astounded - Choose the synonym of this word

   b. happy b. shocked c. enlighten d. clarify

5. Abbreviation of ‘memo’ is

   b. memory b. memor c. memorable d, memorandum

6. Exhaust - Choose the synonyms of this word

   a. refresh b. frazzle c. tireout d. active

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POST – TEST ANSWER PAPER

Name:

Class :

Put a Tick mark in the Answer Column

Q.No	A	B	C	D	Q.No	A	B	C	D
1.	☐	☐	☐	☐	16.	☐	☐	☐	☐
2.	☐	☐	☐	☐	17.	☐	☐	☐	☐
3.	☐	☐	☐	☐	18.	☐	☐	☐	☐
4.	☐	☐	☐	☐	19.	☐	☐	☐	☐
5.	☐	☐	☐	☐	20.	☐	☐	☐	☐
6.	☐	☐	☐	☐	21.	☐	☐	☐	☐
7.	☐	☐	☐	☐	22.	☐	☐	☐	☐
8.	☐	☐	☐	☐	23.	☐	☐	☐	☐
9.	☐	☐	☐	☐	24.	☐	☐	☐	☐
10.	☐	☐	☐	☐	25.	☐	☐	☐	☐
11.	☐	☐	☐	☐	26.	☐	☐	☐	☐
12.	☐	☐	☐	☐	27.	☐	☐	☐	☐
13.	☐	☐	☐	☐	28.	☐	☐	☐	☐
14.	☐	☐	☐	☐	29.	☐	☐	☐	☐
15.	☐	☐	☐	☐	30.	☐	☐	☐	☐

CONTROL GROUP GAIN SCORE

S.No	PRE-TEST SCORE				POST-TEST SCORE				GAIN SCORE
	KNOWLEDGE	UNDERSTANDING	APPLICATION	TOTAL	KNOWLEDGE	UNDERSTANDING	APPLICATION	TOTAL	
1	10	4	4	18	15	6	6	27	9
2	8	5	3	16	12	5	4	21	5
3	12	5	2	19	16	6	5	27	8
4	9	3	3	15	11	4	3	18	3
5	10	4	2	16	12	4	4	20	4
6	7	3	5	15	10	4	4	18	3
7	8	4	2	14	12	4	2	18	1
8	11	5	1	17	12	4	2	18	1
9	9	2	3	14	9	3	3	15	1
10	7	3	3	13	11	4	4	19	6
11	8	4	2	14	10	4	4	18	4
12	10	2	3	15	10	5	3	18	3
13	7	4	4	15	9	3	5	17	2
14	12	3	3	18	11	4	5	20	2
15	9	5	4	18	12	5	5	22	4
16	5	4	4	13	7	4	5	16	3
17	12	6	5	23	17	7	6	30	7
18	8	5	3	16	10	5	4	19	3
19	8	4	4	16	11	5	4	20	4
20	6	5	4	15	8	4	5	17	2
21	11	5	5	21	13	4	5	22	1
22	7	4	3	14	8	6	3	17	3
23	10	5	1	16	11	4	3	18	2
24	9	2	2	13	12	3	2	17	4
25	11	3	2	16	14	5	3	22	6
26	9	2	1	12	11	3	2	16	4
27	13	3	3	19	14	4	3	21	2
28	11	1	3	15	12	2	4	18	3
29	8	4	2	14	10	4	3	17	3
30	9	5	3	17	11	4	4	19	2

EXPERIMENTAL GROUP GAIN SCORE

S.No	PRE-TEST SCORE				POST-TEST SCORE				GAIN SCORE
	KNOWLEDGE	UNDERSTANDING	APPLICATION	TOTAL	KNOWLEDGE	UNDERSTANDING	APPLICATION	TOTAL	
1	11	3	2	16	14	5	3	22	6
2	9	4	3	16	15	6	4	25	9
3	12	4	3	19	17	7	6	30	11
4	10	3	4	17	15	6	5	26	9
5	11	5	3	19	16	6	5	27	8
6	8	4	4	16	17	6	6	29	13
7	13	5	3	21	17	7	6	30	9
8	10	6	1	17	15	7	5	27	10
9	7	3	5	15	14	5	5	24	9
10	8	4	3	15	13	6	6	25	10
11	6	5	3	14	15	6	6	27	13
12	11	4	4	19	16	6	6	28	9
13	10	5	1	16	14	7	6	27	11
14	9	5	4	18	15	6	6	27	9
15	8	3	3	14	15	7	5	27	13
16	12	4	1	17	16	4	6	26	9
17	14	5	5	24	7	7	6	30	6
18	7	6	3	3	16	13	5	23	7
19	9	5	2	16	15	7	6	28	12
20	10	2	5	17	15	5	6	26	9
21	13	4	5	22	17	7	6	30	8
22	11	3	5	19	14	6	6	26	7
23	10	4	3	17	15	5	6	26	9
24	11	5	4	20	16	5	5	26	6
25	8	5	3	16	16	7	5	28	12
26	12	6	4	22	13	7	6	26	4
27	10	5	5	20	17	7	6	30	10
28	7	6	5	18	15	6	6	27	9
29	11	5	4	20	17	7	6	30	10
30	8	6	4	18	15	5	6	26	8

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