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Exploring the Effectiveness of a Vocabulary Intervention within an After-school Program

Taylor Yake
King's University College

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by

Taylor Yake

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Department of Psychology

King's University College at Western University

London, Canada

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Thesis Advisor: Lisa Archibald

PhD in Psychology, MHSc in Speech Language Pathology, BSc

Abstract

The current study aims to examine the effectiveness of a shortened and adapted version of the Word Generation (2010) program within an after-school program setting. This program, created by Catherine Snow at Harvard University, is rich with the principles of Robust Vocabulary Instruction (RVI) described by Beck, McKeown, and Kucan (2013). RVI embeds targeted vocabulary words into a variety of contexts such as audio, video and grade appropriate reading passages. The present study has a quasi-experimental, single group, pre, post-test design. The sample included 23 (12 boys) children between the ages of 8 to 13 years. Researchers hypothesized that children would see an increase in knowledge of the targeted vocabulary, which would be associated with improvement on measures of vocabulary, reading and language. Results showed that children improved on their ability to sight read high frequency words in post intervention assessments. Furthermore, children improved on measures of fluid and spatial intelligence. However, with no comparison group we are unsure if these are true differences.

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Hart and Risley (2003) described the level of vocabulary differences between socioeconomic status (SES) groups as "The Early Catastrophe". In longitudinal analysis, researchers found that children in low SES families who do not experience rich language interaction in the first few years of life could experience a 30-million-word by the age of 3 (Hart, Kirby & Risley, 1997). In some instances high knowledge 3rd graders, typically reared in families with higher SES, had similar vocabulary levels to some 12th grade students (Smith, 1941). Additionally, reading comprehension has been linked positively to vocabulary knowledge therefore children experiencing reading difficulty would benefit from more extensive vocabulary instruction. If a student does not have a strong vocabulary, he or she will have poor language comprehension and reading skills, which in turn will negatively impact all other areas of education (Jalongo & Sobolak, 2011). These differences between groups suggest a need for vocabulary intervention to assist in closing this gap and to understand how students can most effectively make vocabulary gains.

Vocabulary has been defined as the collection of words that an individual can recognize, utilize and understand in the context of written or spoken language (Beck, McKeown,& Kucan, 2008). Vocabulary learning is divided into two categories; receptive and expressive. Receptive vocabulary is the comprehension of words whereas expressive vocabulary is the production of words (Richter, Eible, Laszig, & Lohle, 2002). The goal of the present study is to explore the effect of Robust Vocabulary Instruction on children's abilities in various language measures of reading, writing and vocabulary skills.

Traditionally, vocabulary instruction has been based on instructional context and incidental exposure. In classroom settings, vocabulary instruction has involved the use of a

dictionary and explicit instruction of word meanings. This strategy for word learning is known as Direct Vocabulary Instruction (Beck, McKeown, & Kucan, 2013). Furthermore, schools allocated time for silent reading as learning can occur through incidental exposure of language when children are engaged in grade appropriate literature. According to this approach, vocabulary learning will take place when children are exposed to a variety of literary materials with diverse subject matter. (Coyne, McCoach,& Kapp, 2007). Incidental exposure is most effective when children are engaged and interested in the literature. The current literature suggests that the accompaniment of these two strategies help to increase vocabulary knowledge.

Researchers have embedded specific target words into various stories in attempts to promote learning from both incidental exposure and direct vocabulary instruction. In a study by Penno, Wilkinson and Moore (2002) a total of 30 target words were chosen from two different stories. At pretest and post-test assessment, a multiple-choice test administered where children (5-8 years) pointed out a picture that corresponded to the presented word. When administrators were reading the stories, half of the target words were elaborated on by presenting the definition and using the word in a sentence. All children gained some vocabulary knowledge. However, results were heightened where definitions were presented. In an additional study using similarities in methodology, Justice, Meier, and Walpole (2005), researchers chose ten different storybooks to present to 57 kindergarten children at risk for vocabulary deficits and randomly assigned them to elaborated and non-elaborated conditions. Children displayed higher knowledge on elaborated words than non-elaborated words. Children's vocabulary knowledge was assessed using Cohen's D. Children in both conditions improved on vocabulary knowledge. However, post intervention they saw a large effect for the elaborated condition (d=1.34) whereas a medium effect for the non-elaborated condition (d=0.53). These studies provides support for

the value in combining adding context to vocabulary as well as instructional strategies in

vocabulary learning.

        Recently, in more contemporary vocabulary instruction strategies, there has been an

emphasis placed onto adding more context and meaning to instruction modules. Robust

Vocabulary Instruction (RVI), formerly known as rich vocabulary instruction, involves educating

children on word meanings as well as integrating specific target words in thought provoking,

engaging follow up. (Beck, McKeown, & Kucan, 2013) This approach is based on the

knowledge that children more effectively learn vocabulary when words are introduced in a

variety of contexts. (Beck, Perffetti,& Mckeown, 1982). To achieve this, RVI integrates both

instructional properties of direct vocabulary instruction as well as a variety of other contexts to

promote incidental exposure in instruction modules. Target words are presented in a variety of

different mediums such as audio, video, engaging children in meaningful questions and reading

passages. (Beck, et al., 2013).

        Many studies have been conducted comparing the effectiveness of rich, extended and

RVI in comparison to the simply using the traditional methods of direct vocabulary instruction.

In a study conducted by Beck and McKeown (2007), 52 kindergarten and grade one students

from "low-achieving" were divided into two conditions; robust vocabulary instruction condition

and a no instruction condition. Students in the RVI condition were read 36 grade appropriate

books and participated in meaningful discussion extension and vocabulary activities. Students in

the no instruction condition took part in daily story time of curriculum appropriate books with

direct vocabulary instruction, however no extension was offered. Children in the RVI condition

kindergarten group showed significantly higher gains than the comparison classes, as did the

experimental first-grade group. Another study by Coyne et al. (2007) set out to explore the

differences in efficacy of RVI, direct vocabulary instruction and no instruction control. The RVI

condition included explicit instruction of definitions as well as applying the target words to real

life settings. All kindergarten participants improved regardless of what condition in which they

were placed. However, children in the RVI condition experienced more significant gain.

In contrast, some studies have shown that RVI can be more effective when students have

higher levels of receptive language knowledge at pre-test. An interesting study conducted by

Apthorp (2006) examined the effectiveness of a curriculum intervention created by Beck and

Mckeown (2004) called *Elements of Reading*. The experimental condition included a third-grade

class in which 78 percent of students were not meeting curriculum standards for language. In a

comparison group, 70 percent of the students were exceeding the grade requirements. Students'

vocabulary gains were significant when the group's majority met the grade requirements and

those struggling in their learning studies did not show a gain. This provides support for the

notion that previous vocabulary knowledge has an impact on word learning.

As previously mentioned RVI places an emphasis on targeting specific words to assist in

increasing vocabulary levels. These words often fall under the category of "Academic

Language". Academic Language is more frequently utilized in written context and rarely used

during informal conversations. (Snow, 2010). In their book, *Bringing Words to Life: Robust*

Vocabulary Instruction, Beck et al. (2013), prompted educators to divide vocabulary lists into

three different tiers of language. Tier one consists of basic vocabulary that is rarely the focus of

instruction in school age groups. These words are often used in many different settings, with

high frequency and are learned at an early age (i.e.what, there, out). Tier two words consist of

more academic words used by mature language users (i.e. apprehend, opinion). These words are

more often found in written contexts but can be applicable to a variety of disciplines. Students

are less likely to infer meanings of these words through incidental exposure and wide reading. Finally, the third tier of words consist of "domain specific" language that only applies to one discipline. An example of this tier could be "equilateral" for the math discipline. The intervention in the present study targeted academic words of the second tier. Studies have shown that simply introducing these academic words at a high frequency increases academic word knowledge. In a study by McKeown, Beck, Omanson, and Pople (1985), fourth grade students were divided into conditions based on how many times an academic word was presented. The low frequency condition facilitated 4 encounters with the target word. Additionally, the high frequency condition facilitated 12 encounters with the targeted word. In post intervention analysis, children performed significantly better in the high frequency condition on a word knowledge test. Townsend, Filippini, Collins, and Biancarosa, (2012) set out to investigate whether greater academic word knowledge is associated with greater academic achievement in elementary school students. A sample of 339 seventh and eighth grade students was measured on their vocabulary knowledge, general academic word knowledge and academic success. Regression analyses displayed that general academic word knowledge does explain unique variance in academic achievement. Taken together these results that using academic language within a school age setting can be positive for their overall academic success.

In the present study, I will be using an adapted version of the language curriculum developed by Catherine Snow of Harvard University and Strategic Education Research Partnership (SERP) called Word Generation (2010) (Word Gen.) to study Robust Vocabulary Instruction's impact on various language measures. SERP frequently conducts applied research for school districts in an attempt to address critical issues. Word gen (2010) was created in an attempt to address the language gap between children of different SES. I predict that the

intervention will be effective as it integrates direct vocabulary instruction strategies including

word studies and child friendly definitions. Furthermore, the intervention materials embed the 16

targeted words into a variety of mediums such as, video, reading passage, word study,

morphological awareness activities and an in-group debate. A study conducted by Snow,

Lawrence, and White (2009) implemented the program with children in grades six to eight in

elementary schools. The word generation group displayed significantly better vocabulary growth

then the comparison group. Furthermore, English second language students displayed even

greater growth than students who are English first language.

There is already support that the Word Generation (2010) program and Robust

Vocabulary instruction leads to higher level of vocabulary knowledge regarding targeted

academic words. However, the purpose of the present study is to extend the knowledge of RVI

through the Word Gen program that utilizes different a variety of different mediums. The

hypothesis is that children would see an increase in knowledge of the target words, which would

be associated with improvement on measures of vocabulary, reading and language. It was further

hypothesized that these increases might be observed in small-scale experimental measures rather

than standardized test measures.

The present study has a Quasi-experimental, single group, pre, post-test design. The

sample was recruited from children participating in an after-school program in Southwestern

Ontario. This program supports children with tutoring services and aims to increase children's

motivation to complete school related tasks. The sample for this study includes 23 children

between the ages of 8 to 13 years (12 boys).

Method

Design

A within subjects, pre-test, post-test, single group, quasi experimental design was employed to explore the effectiveness of a robust vocabulary language intervention; Word Generation (2010). Dependent continuous variables tested included; receptive vocabulary, sentence recall ability, sight word efficiency, phonemic decoding efficiency, knowledge of target word meanings and matrix reasoning. The study's goal is to compare baseline scores on the dependent variable measures to scores post intervention. This will be completed via paired t-test between pre-test and post test scores. Furthermore, a repeated measures analysis of variance was conducted on the target word knowledge versus non-targeted word knowledge as a comparison.

Participants

Data was collected from 23 children (12 boys, 11 girls Mean Age= 10.49) participating in a before and after school program in Southwestern, Ontario. Participants were recruited via a convenience sample. To be eligible for this study, children had to be fluent in the English language and had to possess the ability to understand and read grade appropriate texts. Participants were rewarded with a 5 dollar gift card to a local movie theatre at the last session for participating in the study.

Measures

Word Generation Intervention (Word Generation, 2010) Language curriculum developed by Catherine Snow of Harvard University and the Strategic Education Research Partnership. This vocabulary intervention goal is to build academic literacy and argumentation skills. Furthermore, follows the principles of "Robust Vocabulary Instruction". Graduate students facilitated 4

different sections of this program. "Introduction", "Who should decide what we eat?", "Should students be required to wear uniforms?" and "When is it okay to break the rules?". Each child friendly debate topic incorporates 5-6 target words.

Target Words incorporated in the Word Generation Intervention:

- Nutrition.
- Effective.
- Eliminate.
- Campaign.
- Respect.
- Apprehend.
- Designated.
- Acceptable.

- Stray.
- Intention.
- Regulation.
- Argument.
- Agreement.
- Perspective.
- Issue.
- Opinion.

Receptive vocabulary test Peabody Picture Vocabulary Test (form A) (Lloyd, Dunn & Dunn, 2007) is a standardized measure of receptive vocabulary that requires children to point to 1 of 4 pictures indicating a word. Administrators present items one by one in sets of 12. If a child gets 8 or more items wrong in a set, their knowledge has ceilinged and administration of the test will be finished. After scoring, the test reveals one overall standardized summary score representing the child's level of receptive language skills for their age. PPVT possesses a test-retest reliability of $r=.93$. Furthermore, test possesses high construct validity as the scores correlate significantly with other language measures such as CELF-IV. Mean reliability across the ages was strong ($\alpha=.95$).

Recalling sentences test Clinical Evaluation of Language Fundamentals, fifth edition (CELF-5), created by Semel, Wiig and Secord (2005). is a 32 item test that measures children's ability to recall and imitate sentences of varying length and complexity. The child orally repeats sentences presented by the administrator. Measure is deemed as high in reliability, however low in validity. Inter-rater reliability for this measure for ages is strong ranging from 0.88-0.97. Examples of items include; "The tractor was followed by the bus." "Coach gave the trophy to the to the team that won the track meet on Saturday."

Matrix Reasoning This subtest included in the Wechler Abreviated Scale of Intelligence (1999) taps fluid intelligence, broad visual intelligence, classification and spatial ability. The child is presented with an incomplete matrix or series and selects the response option that completes the picture. Cronbach's alpha for this subtest is high ($\alpha= 0.87$).

Sight Word Efficiency and Phonemic Decoding efficiency The Test of Word Reading Efficiency Second Edition, 2nd edition (TOWRE-2) (Torgesen, Rashotte & Wagner, 2012) has been included to measure of an individual's ability to pronounce printed words (Sight Word Efficiency) and phonemically regular non-words (Phonemic Decoding Efficiency) accurately and fluently. Because it can be administered very quickly, the test provides an efficient means of monitoring the growth of two kinds of word reading skills that are critical in the development of overall reading ability. Children are presented with a list of words and are asked to read as many words as they can within 45 seconds. Inter-rater reliability coefficients are high ($r=.99$) across the subtests and the total test.

Knowledge of target word definitions this is an unpublished measure used to assess knowledge of definitions of target words. Children independently complete a multiple-choice test where

they choose a synonym for the highlighted targeted word within the sentence. Target words are included as well as non-target words that are also present in the intervention. (See Appendix A)

Procedure

Study participants were recruited through an after-school program located in Southwestern Ontario. The goal of this program is to assist children with academic tasks and increase motivation to succeed in their education. The coordinator of the program assisted researchers in recruiting participants verbally using a predetermined script. Researchers acquired both consent and assent before the assessments commenced.

In the 1-2 weeks prior to beginning the Word Generation program, each participant completed an assessment battery to measure skills at baseline. All language assessments were administered at the after-school program by Speech Language Pathology graduate students. Assessment measures were completed at random materials were shared between administrators. Due to time constraints and limited resources most participants did not complete all assessments within the battery.

The intervention included 7 weekly sessions, each an hour in length. Children were randomly assigned into groups of 2-4 to participate. The first week included an introductory session to familiarize the children with the nature of the program. For two sessions each, children discussed a child appropriate debate topic. Children discussed

- "Who should decide what we eat?" This topic presented various perspectives on whether or not junk food should be allowed within schools.
- Should students be required to wear uniforms at school?

- • When is it acceptable to break the rules? This fostered discussion around legality

  versus morality.

During the 7 weeks, each session was introduced video that visually presented the target words and presented them as a child appropriate news cast. In total, the children completed three word studies that educated children on definitions of a portion of the target words. The activity used the vocabulary in a sentence and fostered further discussion of meaning by adding context and questioning. Each word was also presented on flash cards with a child friendly definition on the back. Also, each session prompted children to read a grade appropriate text regarding the assigned debate topic orally and all participants had the opportunity to practice their reading skills. Finally, every other session concluded with a debate about the varying perspectives of each debate topic. facilitated incorporating the target words. Immediately post-intervention, the same assessment battery was administered by a graduate student not involved in the implementation of the word generation intervention.

Results

The outcome of paired samples t-test comparing the standardized scores for Sight Word Efficiency (*Mpre* = 77.87 SD = 25.6; *Mpost*= 82.67 *SD* =26.74, $t(13) = 2.72$, $p <.001$) was significant. Children improved this sight reading measure following the intervention. After seeing significant results, Cohen's *D* effect size was calculated. Standardized differences between the two groups was large($d=1.37$).

The outcome of the paired samples t-test comparing Matrix Reasoning scores at pre and post was marginally significant. (*Mpre* = 45.20 *SD* = 8.1; *Mpost*= 50.80 *SD* =10.5, $t(9) = 2.24$, $p=.051$). However, when Bonferroni correction is applied for and we split the probability value across five t-tests ($p=0.01$) it may not be true differences and only sight word efficiency survives.

Outcomes of paired t-tests for PPVT (*Mpre* = 103.40 *SD* = 17.2; *Mpost*= 107.40 *SD* =

18.4, *t*(9) =-1.85, *p*=.097), Recalling sentences (*Mpre* = 6.27, *SD* = 0.97; *MPost* = 5.60, *SD* =

3.01; *t*(14) =0.96 *p*=.35), Phonemic Decoding Efficiency s (*Mpre* = 94.60, *SD* = 17.7; *Mpost* =

93.80,2 *SD* = 15.7; *t*(9) =0.68 *p*=.52) did not reach significance. Wilcoxons Signed ranks non-

parametric tests were also completed on all variables because the sample size may not meet the

assumptions of a normal distribution. The non-parametric test always agreed with the outcomes

of the t-test.

To analyze the measure of target word (*Mpre* = 43.96 *SD* = 14.75; *Mpost*= 54.31 *SD*

=17.67) and non-target word knowledge (*Mpre* = 41.29 SD = 19.83; *Mpost*= 41.32 *SD* =22.40) a

repeated measures ANOVA was conducted using age as a covariate. It was found that there was

no significant effects of word knowledge (*F*(1,11)=1.54, *p*=.241) or time (*F*(1,11)=.724,

p=.413). Therefore, the children did not significantly improve on word knowledge post

intervention.

Discussion

As hypothesized, children did make gains in various language measures at post test

assessments. Children's ability to read and pronounce high frequency words increased following

the intervention. This change could be a result of the variety of opportunities Word Generation

(2010) offers for children to practice their reading orally with the support of an administrator.

The ability to recognize words by sight has obvious positive implications on reading fluency.

When children read texts that requires a great deal of phonemic decoding, it will be more

challenging and potentially discouraging for the child. (Ehri, 2005)

As noted above, marginal significance was found on measures of spatial and fluid

intelligence. This suggests that children improved on these areas post intervention. This is

surprising as it was not a main focus of this study. Changes in this measure may be due to

maturation effects. As children were participating within the intervention, it was accompanied by

their typical educational routines. It is unlikely that the increase in intelligence is a result of the

intervention alone.

The Word Generation Program was successful in engaging children thoughtful,

discussion around child appropriate controversial subject matter. Furthermore, it prompted

children to build arguments in an academic manner. Although the mean word knowledge had

increased, children did not significantly improve on knowledge of the targeted word vocabulary.

Lawrence, Francis, Paré-Blagoev & Snow (2016) also completed an efficacy study by observing

271 school age participants in schools that had adopted the program. Furthermore they included

a control of 211 students that were not utilizing the program. They hypothesized that children

would see gains in targeted vocabulary, receptive vocabulary skills and measures of reading

comprehension. Children made minimal but significant increases in targeted vocabulary.

The lack of vocabulary gains in the present study could be due to the fact that a small number of

academic words were selected and some were discussed four weeks before post assessment.

Results may be more substantial if word generation included a slightly larger list of high utility

academic words and discussed them at every stage of the intervention. Also, perhaps this kind of

vocabulary intervention would see more gains in vocabulary knowledge if the duration was

longer than seven weeks. Priming children to use specific academic words over the course of a

school year may have greater impact on target word knowledge as well as receptive vocabulary

knowledge.

Often in educational and applied research resources can be limited. A significant

limitation to this study is the absence of a control group. A control group is needed to assess if

the results are meaningful, however, with the sample size and the level of significance for the sight word efficiency it is promising that the differences were true. When children completed the same assessment battery at pre-test and post-test, researchers attempted to limit practice effects by providing children with a seven week intervention. It is unlikely that children will make large gains due to practice effects with an extended amount of time between pretest and post test. Similar methodology could be applied to a larger, randomly selected group of children that is more representative of the population. This strategy can increase the accuracy when extrapolating findings to other after-school programs. Additionally, during research of this nature it is very challenging to control the environments for distractions. Future research would benefit from using a larger room, with less people to minimize noise.

If this study was replicated with a larger sample size, one could expect the change in receptive vocabulary knowledge to reach significance. Past research has found that, regardless of language ability, children have made similar gains in vocabulary as a result of RVI. (Coyne et al. 2007). This is important because receptive vocabulary knowledge has been linked positively to reading comprehension. Ouellette (2006) conducted a study to examine the relationships between vocabulary (receptive and expressive) and reading comprehension. 47 seventh grade children were asked to read aloud from a word list that included of 47 words. Initially the words were basic, then they progressively became more difficult. The results showed that depth of receptive and expressive vocabulary knowledge was strongly, positively correlated with reading comprehension skills. In another study, McKeown, Beck, Omanson, and Perfetti, (1983) investigated the role of a vocabulary intervention program and its impact on text comprehension. They had found that when participants learned a larger number of targeted words, they were better able to comprehend texts presented in a post-test. The acquisition of vocabulary

knowledge sets the tone for reading ability, therefore education systems need to take steps to intervene when students are experiencing vocabulary deficits. The National Assessment of Educational Progress (NAEP) in America reported in 2015 that children with the highest reading scores also had the highest vocabulary scores. In addition, students who scored in the lowest 25% in reading comprehension also scored in the lowest 25% in vocabulary.

This study can be viewed as a starting point for future research to increase the knowledge of RVI's and Word Generation's implication on language acquisition. The present findings of this research show that RVI has potential to have an impact on children's reading and receptive vocabulary. Additionally, research can focus on what specific elements of Robust Vocabulary Instruction are most beneficial to assisting school age children in their learning. This could be done by randomly assigning groups of students to conditions that offer language education in selected mediums. Overall, Word Generation (2010) had benefit on children's language because of the many oppourtunities for reading practice and discussion. Target word knowledge did not increase however children may have developed the skills to critically think about passages and vocabulary.

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Appendix A

Wise Words – Definitions

NAME: _____   Date: _____

DIRECTIONS: Read the sentence and choose the one best answer – the option that means the same or almost the same as the underlined word. Circle your answer.

1. The group will campaign against smoking in public places.
   a) fight
   b) complain
   c) collect
   d) surrender

2. My intention was to read my book last night, but I helped mom with shopping instead.
   a) aim
   b) decision
   c) challenge
   d) suggestion

3. The math teacher assigns a multiplication exercise at the beginning of every class.
   a) work out
   b) game
   c) article
   d) activity

4. Getting an A on the science test was Greg's motive for studying all week.
   a) plan
   b) reason
   c) excuse
   d) purpose

5. Make sure not to stray away from the path.
   a) look
   b) run
   c) stay
   d) wander

6. The police officer's focus is to keep the community safe.
   a) plan
   b) answer
   c) purpose
   d) target

7. Justin Trudeau is a Canadian citizen
   a) resident
   b) client
   c) person
   d) dentist

8. Sitting quietly at your desk is acceptable behaviour.
   a) lazy
   b) sufficient
   c) good
   d) dangerous

9. Taryn and Areej made an agreement that they would split the bill for lunch.
   a) plan
   b) report
   c) deal
   d) partnership

10. The friends discussed whether global warming was true or false.
    a) wondered
    b) disagreed
    c) debated
    d) imagined

Wise Words – Definitions

NAME: _____   Date: _____

DIRECTIONS: Read the sentence and choose the one best answer – the option that means the same or almost the same as the underlined word. Circle your answer.

11. People violate federal laws when they choose not to wear their seat belt in the car.

   a) ignore

   b) solve

   c) support

   d) disobey

12. My dentist does expert tooth and mouth care.

   a) excellent

   b) special

   c) skilled

   d) average

13. Lisa stated her opinion on whether or not schools should allow cell phones in class.

   a) position

   b) idea

   c) evidence

   d) question

14. Reviewing your notes after class is an effective way to study.

   a) useless

   b) good

   c) efficient

   d) weak

15. I was designated by my teacher to be a hall monitor at lunch.

   a) asked

   b) named

   c) directed

   d) told

16. Exercising won't keep you healthy if you don't eat nutritious food as well.

   a) salty

   b) healthy

   c) nourishing

   d) crunchy

17. Students respect the teacher.

   a) reject

   b) admire

   c) insult

   d) dislike

18. A lawyer defends criminals even if they are guilty.

   a) protects

   b) supports

   c) accepts

   d) treats

19. Jim tried to understand Laura's perspective.

   a) way of life

   b) manner of speaking

   c) point of view

   d) sense of self

20. The engineer tried to eliminate the problems.

   a) go around

   b) talk about

   c) elongate

   d) get rid of

Wise Words – Definitions

NAME: _____   Date: _____

DIRECTIONS: Read the sentence and choose the one best answer – the option that means the same or almost the same as the underlined word. Circle your answer.

21. By staying after school to get extra help, Tom began to <u>apprehend</u> long division.

   a) complete

   b) solve

   c) appreciate

   d) understand

22. Students have a lot of different <u>emotions</u> when the first day of school is nearing.

   a) tasks

   b) feelings

   c) affections

   d) parties

23. The new <u>regulation</u> was very strict.

   a) diet

   b) principal

   c) rule

   d) privilege

24. The class thought of <u>arguments</u> to explain why television is better than books.

   a) beliefs

   b) ideas

   c) reasons

   d) excuses

25. Smoking in school playgrounds and public parks is <u>prohibited.</u>

   a) frowned upon

   b) problematic

   c) discouraged

   d) forbidden

26. The <u>issue</u> was discussed at the meeting.

   a) concern

   b) solution

   c) plan

   d) idea

27. I will <u>convince</u> her to try the vegetable.

   a) persuade

   b) ask

   c) help

   d) force

28. I am <u>innocent</u> of taking the pen off the teacher's desk.

   a) guilty

   b) accused

   c) free

   d) guiltless