

Every Picture Tells a Story
The Impact of Visual Literacy in the Classroom

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FACULTY APPROVAL

Every Picture Tells a Story

The Impact of Visual Literacy in the Classroom

Approved for the Faculty

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ABSTRACT

Students used pictures/photographs to build a working picture journal/dictionary to facilitate understanding of content vocabulary and unfamiliar concepts. Identifying the vocabulary and concepts through pictures/photographs allowed students to make the learning relevant to school and connected to their personal lives. The intentional teaching of Visual Literacy increased students' comprehension via positive visual stimulation by connecting a visual with a word. Even young children, when encouraged, have the ability to express complex concepts visually. This would be especially beneficial to second language learners and special education students and help to close the achievement gap for those children. When taught to put their ideas into their own pictures and words Visual Literacy allowed students to experience success in the classroom.

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CHAPTER 1

Introduction

Background for the Project

The author became aware of a movement called Visual Literacy that seemed to impact student learning in a positive manner. At the same time the author also discovered that in Washington state there had been piloted Classroom Based Assessments (CBAs) and Classroom Based Performance Assessments (CBPAs) in the area of The Arts and that Classroom Based Assessments were expected to be implemented in classrooms in 2009. The author had taught visual literacy in the classroom but had been unaware of the timeline for the specific mandates. The author believed that combining math vocabulary, visual literacy, and visual literacy vocabulary would enhance student comprehension.

Statement of the Problem

According to the current Washington Assessment of Student Learning (WASL) scores, students had steadily falling math scores. The author thought that by combining visual literacy,

visual literacy vocabulary, and math vocabulary, the math comprehension would improve. The author believed the consequences of this study would benefit students in both vocabulary comprehension and visual literacy which in turn would enhance classroom test scores and district mandated test scores.

Purpose of the Project

The author's purpose was to determine the outcome of intentional teaching of math vocabulary through the visual arts. The deliberate teaching would improve student comprehension of content vocabulary in math and visual arts.

Delimitations

This project took place in a 3rd grade classroom in a small elementary school in Yakima, Washington. The school was comprised of first through eighth grades, with one classroom at each grade level. The class was comprised of 15 females and 11 males. Of the twenty six students, six were Hispanic, and eight had some degree of special need. Curriculum used in the classroom was prescribed by the school district for Reading,

Math, and Science. The program used for Reading was Open Court, for Math it was Investigations, and for Science it was Carolina Biological. The author augmented that curriculum with Visual Literacy lessons, Art, Social Studies, and Technology. The curriculum was integrated as much as possible, when appropriate. The environment was organized, structured, and students were provided opportunities to be engaged in hands on learning whenever possible. Curriculum was driven by student assessment data and student need. Data were gathered from September 2009 to February 2010. The pre-test was given in September to assess a baseline of knowledge and a post test was administered in February which assessed growth.

Assumptions

The author was aware of the low math scores in the district and assumed that students struggled with the technical vocabulary which impacted those scores. The author knew the district would require assessments in visual arts by the end of the 2009 school year. The content vocabulary from math and visual arts aligned and could be taught as an integrated

curriculum. The author assumed that teaching math concepts visually would increase student comprehension which in turn would be reflected in end of the year expectations. The information used for the process was taken from the Washington State Essential Learnings. This choice would allow other teachers in the school district or state to replicate the experiment because common language was used. The author, a veteran teacher, was adept at teaching the math vocabulary, the teaching of visual arts, and integrating curriculum, which led to the validity of this project. Although the class(es) that were used in the experiment were varied in student ability, size, and make-up, the author assumed that all students would benefit, whatever their situation. The author used assessments that were appropriate for all subjects included in the project.

Hypothesis or Research Question

The author's hypothesis was that students would gain understanding of required math and visual literacy vocabulary via the integration of the curriculum, the teaching of math vocabulary/concepts through a visual means.

Significance of the Project

The author determined that the class, the school, and the school district would benefit from the data collected from this project. The data showed whether a focus on the math vocabulary through visual arts benefited students, or not, and informed the district's teachers accordingly. All schools benefited from using strategies that improved math scores. When the author used similar strategies with previous classes, the data showed that student's comprehension increased. If the results of the project did not show an impact on student comprehension in the area of vocabulary it was still a valid use of time in the area of visual literacy.

Procedure

The students used pictures/photography to build a working photo journal/dictionary in which they identified 20+ math/visual literacy content vocabulary words to make sense of the unfamiliar concepts. After discussing the meaning of the word or concept, the student used a visual representation of the identified concept/word and added to the journal for future

reference. This was done each week for twenty weeks to gather data, along with a pre-test and a post test. The data were gathered from a test group comprised of 4th grade students that the author had taught the previous year. The 4th grade teacher supported the project, and allowed the testing. This project was supported in writing by the principal the school.

Definition of Terms

photo journal/dictionary. Spiral notebook in which vocabulary words, definitions, drawings, pictures, and photos of the concept were collected.

visual literacy. The ability to “interpret, use, and create visual media in ways that advance thinking, decision making, communication, and learning.”

Acronyms

CBPA. Classroom Based Performance Assessment

CBA. Classroom Based Assessment

WASL. Washington Assessment of Student Learning

CHAPTER 2

Review of Selected Literature

Introduction

The author established a research base focused on Visual Literacy and the impact on student's learning in the classroom. One topic selected and reviewed was Visual Literacy and how it impacted the classroom. A second topic was engaging students through visual literacy. The focus of the final topic was implementation of visual literacy to positively impact Washington State Requirements.

Visual Literacy and How Can It Impact the Classroom

The term visual literacy was coined by John Debes in 1969. Although there were many definitions given to the concept of visual literacy, the definitions all contained the same sentiments. Visual literacy referred to a group of vision competencies a human developed by seeing and at the same time having and integrating other sensory experiences (John Debes, 1971). Visual literacy was the ability to decode visual symbols into meaning (Howard Gardner 1982). The most useful proposed

definition to date was, "Visual literacy is the ability to understand and use images and to think and learn in terms of images, i.e. to think visually" (Horton 1982).

The author determined that visual literacy was a much debated issue, an issue that had been constantly evolving. All literature reviewed indicated that the development of visual literacy capabilities was fundamental to normal human learning. Visually literate persons were able to discriminate and interpret the visual actions, objects, and symbols, natural or manmade, encountered in the environment. Visual competencies allowed the learner to communicate with others, to comprehend and to enjoy visual communications.

Students became visually literate through practice of visual encoding (expressing their thoughts and ideas in visual form) and visual decoding (translating and understanding the meaning of visual imagery). Students given opportunities to learn through visual avenues increased their chances of internalizing what was presented to be learned. Visual literacy equaled sharp changes in motivation among children of bilingual heritage

complemented with much improved language performance. Student performance led to positive parent responses, e.g., "Parents who saw what their children could do became supporters" (John Debes, 1971, Pg 9).

Visual Literacy was comprised of three levels of perception and translation. The first level was visual awareness. This level included superficial content or immediate response to simple queries like "What was that a picture of?" The second level raised the bar by asking, "What was that picture about?" This indicated a level of concrete understanding of the subject content. It included a process by which the viewer perceived what was being processed and demanded a more complex way of thinking. This required a sharp eye and underlying knowledge. The third level was more elusive, it was the perception of abstract elements. The third level included perceptions that could not be expressed with words alone, as complete understanding was associated with visuals. This level required a sharp eye, sensibilities, and a knowledge base that needed to be learned (John Debes, 1971).

What would be expected from a visually literate person would be to read visuals with skill, understand object language, and body language. To read visuals with skill was to be able to understand how and what semantic elements were put together in order to create an appealing single message. Verbally literate people were familiar with and used newspapers, books, magazines, typewriters, computers, pens, pencils, and other tools. A visually literate person was familiar with various ways of using nonverbal images including film, video, cameras, computers, projectors, copy machines, and other tools (Debes, John 1971).

The following was a quote by Dr. Jerry Getman, "The mind cannot well conceive what the muscles have not experienced." Debes took that a step further and said, "But the most important set of muscles from the standpoint of knowledge, intelligence, literacy, are the muscles of the eye" (John Debes 1971, Pg 7).

The building blocks of a visual literacy curriculum began with the vocabulary. Questions then arise from the analysis of that vocabulary. How do we send messages to viewers? How do we

raise the questions and then answer them? These were established as focal points for this paper.

Central to the application of the visual literacy concept to teaching in the classroom was the acknowledgment that no experience offered to a learner was nearly as appealing as the opportunity to do something by themselves, something of their own choosing, and especially something that has visual aspects or a visual communications piece. Giving the learner an opportunity to draw, arrange visuals, link visuals with sound, create collages, take pictures, link the pictures to content vocabulary, was to almost guarantee a highly involved learner. This was individualized, and personalized learning.

Engaging Students Through Visual Literacy

Learning linked to real lives engaged students and allowed for rigor in the classroom. Lessons infused with relevance and rigor and supplemented by sound practice was what was needed to attract and hold students' attention. The North Central Regional Education Laboratory, building on the work of the International ICT Literacy Panel, identified eight essential categories of literacy

in today's knowledge based society, one of them being, "Visual Literacy: The ability to 'interpret, use, and create visual media in ways that advance thinking, decision making, communication, and learning'" (Riddle, 2009 Pg 42).

Today's students were bombarded by visual cues, which they seemed to translate effortlessly. Teachers today were not in classrooms to entertain, so to speak, but the need to keep our students engaged exists. So, how did we change the way we teach to best reach our students?

The answer was to link the learning in the classroom to students' real lives. Teachers needed to infuse their lessons and assessments with rigor and relevance to the students. If educators wanted to contribute to the development of self-directed, creative thinking students we must be prepared to help them be the best learners in the twenty-first century. We as teachers needed to make the paradigm shift into the present world of our students and out of the world that we grew up in. This meant taking on these tasks along with our already loaded

schedule of curricular demands, lack of time, and most likely access to proper equipment.

Teachers were faced with groups of students that have diverse developmental levels, learning styles, and curricular needs. We needed to learn how to work smarter and include a range of literacies that comprised more modern forms of communication. A classroom needed to be a balance of rigorous academics along with rigorous creativity to be able to engage students in their visual world.

Today's literacy was not simply "new", today's literacy was multidimensional. Students today incorporate many different ways of receiving and expressing information and often the process involves creative collaboration. Visual literacy was central to such communication.

No longer was visual literacy an elective course of fine arts studies, visual imagery connected with technology had progressed to the forefront of communication. So to navigate in the real world students must be visually literate – they must be able to decode, comprehend, and analyze the elements and

messages (and values) that are communicated to them through the visual image.

There was a potential and power in being able to address these issues with students. If we as teachers could place this information within a solid framework of core disciplines then we would have an opportunity to help influence a generation of creative, multiply skilled lifelong learners. (Debes 1971 & Riddle 2009).

Implementation of Visual Literacy in the Classroom to Positively Impact Washington State Requirements

Washington State had a mission and vision for teaching students about the arts. They conveyed the message that we were directed to continue to raise the academic bar and challenge the current system. To accomplish this task we needed to engage students in their learning in different ways. The state believed that one of the most important venues for raising the bar was through the arts.

Washington State gives the following definition to the concept of "The Arts"

“The Arts – communicating and integrating life, literacy and learning through experience for all learners.” (OSPI 2009).

The Office of Superintendent of Public Instruction (OSPI) website told visitors that if teachers were dedicated to the task of preparing all students then all schools would have a well rounded arts program. There was no mention of funding of such a program, just an encouragement for all school districts to ensure that all students would have access to quality opportunities.

We understood that visual opportunities infused with curriculum would enhance learning. When children were encouraged to define and refine their creativity, a higher level of learning occurred. Learning was more enjoyable and became intrinsic to the student.

The state had a goal to offer and support a comprehensive and sequential, standards based K-12 program in many areas of the arts, including visual arts instruction. To date the state had required Classroom Based Performance Assessments, but only for certain teachers, such as music and content specific art

teachers. If teachers were encouraged and supported with supplies and training all teachers could be teaching toward state goals, not just the few who are mandated. For example, alignment of visual literacy and math using the state tools (Essential Learning Requirements) was a do-able task for all teachers. An example was component 1.3: Understands and applies concepts and procedure from geometric sense, 1.3.1: Understands the concept of congruence, the curriculum aligned with visual representations would be an effective form of instruction. Our state had the responsibility to level the educational field and provide these opportunities across the playing field, to all students, at all grades, this included training for all teachers. (OSPI 2009)

Summary

This author's hypothesis was that students would gain understanding of required math and visual literacy terms via the integration of curriculum, teaching math and common visual literacy vocabulary through a visual means.

The fact that there was a movement in the 1970's to define visual literacy and to collect research was new information to the researcher. One can tell from reading the early type-written manuscripts that the early researchers knew they were on the cusp of something valuable and that they were very passionate about the research.

Finding out about the father of visual literacy validated the author's intuition. The author had not known about the early involvement of John Debes, et al. Learning this information empowered the researcher to believe that her hypothesis led to an end that would enhance student learning.

Johanna Riddle had given teachers who wished to begin teaching their students about visual literacy a valuable tool. The book, Engaging the Eye Generation outlined visual literacy strategies for teachers in K-5 classrooms. The information offered was guided instruction which helped in implementing strategies in the classroom that aided in assessing students for this project. The book also included references and resources such as "A Thousand Words: Promoting Teachers' Visual Literacy

Skills". These tools were an asset for research, as they were recommended by a credible source, as opposed to random search on the World Wide Web.

In theory OSPI sounded as if they were supporting the arts in all classrooms, but the reality was that they were barely touching the surface of the issue. They stated that instruction should be provided by art specialists and classroom teachers, but classroom teachers had little training and no monetary support to implement their ideas into practice. Although it was stated that art instruction would enhance both student literacy, and meaningful, purposeful, and enjoyable educational learning opportunities, the truth was in most classrooms it was just a wish.

CHAPTER 3

Methodology and Treatment of Data

Introduction

Students used pictures/photography to build a working photo journal/dictionary in order to understand content vocabulary and unfamiliar concepts aligned from math and visual arts. They identified the vocabulary and concepts through pictures/photos, which allowed students to make the learning relevant to school and connected to their personal lives. The intentional teaching of visual literacy increased students' comprehension via positive visual stimulation. Even young children, when encouraged, had the ability to express complex concepts visually. This was especially beneficial to second language learners and special education students and helped to close the achievement gap for those children. When taught to put their ideas into their own pictures and words it allowed them to experience success in the classroom.

According to OSPI, "The Arts", which included visual arts, was effectively integrated into student educational experiences in all

Washington State schools. This mandate was meant to enhance both student literacy, and meaningful, purposeful, and enjoyable educational learning opportunities. It also contributed to preparing students to become lifelong learners. Integrating visual arts and technology into the content areas created learning opportunities for all students, especially second language students, which helped them communicate, demonstrate achievement, and lower their affective filter.

Wendy Ewald, who wrote, I Wanna Take Me A Picture states, "There's little doubt that photography can enhance students' (and teachers') responses to the demands of learning." (Ewald 2001, Pg 9).

Methodology

Descriptive Research was the method that was used for this investigation. Anecdotal records were kept by the teacher. Although the entire class was involved in the study, a sample group was chosen for data collection.

Participants

The study sample reflected the diverse demographics of the third grade classroom of 26 students, which included ELL/Migrant, Special Education, and students of various grade level abilities.

Instruments

Anecdotal records were kept on the selected students. An *anecdotal record* is "a written record kept in a positive tone of a child's progress based on milestones particular to that child's social, emotional, physical, aesthetic, and cognitive development," notes the American Association of School Administrators (1992, p. 21). The teacher observed and then recorded a child's actions and work throughout the day while the activities were occurring. The recording was informal and was based on notes and checklists with space for writing comments. It was done only when appropriate and was not forced; in fact, there were times when there were days between entries. This research method was both valid and reliable when the records

were maintained and progress or lack of progress was documented and reviewed periodically.

Checklists and observations were used on a weekly basis and kept in individual files. The student work that was produced was also used to assess each individual student's progress.

Checklists were be revised on an as-needed basis. The data from the intentionally designed checklists was be used to assist in determining the effectiveness of this strategy.

Design

This study was documented by using the self-reporting method. In this case the students did not complete an individual survey or surveys, but will engaged in interviews with the teacher so that pertinent data could be collected.

Questionnaires were also developed for this purpose. Interview questions were formulated before hand to ensure validity and all students were asked the same questions during the same period of time. Some questionnaires required the student to select

from a multiple choice array, some required written responses, while others were verbal and the teacher collected the data.

The questionnaires were tested for relevance and content prior to being given to the students. Results were then analyzed and recorded. Progress or lack of progress was a determining factor in further curriculum development for the study. The data determined which students required re-teaching, reinforcement practice, or extensions. Students were allowed to proceed at their own pace with teacher support and facilitation.

Procedure

Objective: Students made a picture/photo journal/dictionary in which they will collect vocabulary words or curriculum concepts which they did not understand. After discussing the meaning of the word or concept, the student found a picture or took a snapshot of a visual representation of the word or concept and added it to their picture/photo journal/dictionary for future reference.

Time: September 2009 – January 2010

1-2 times per week for a 90 minute class period.

Materials: content curriculum and vocabulary words collected by students, magazines, books, digital cameras, photo printers, ink, journals, any other materials for final project. I Wanna Take Me

A Picture by Wendy Ewald

1. Using spiral notebooks students set up a picture/photo journal/dictionary with a picture of themselves that the teacher had provided and their name.

2. The teacher modeled how the journal was to be used.

Students were provided with 5 words from the Visual Arts Glossary published by OSPI (words were intentionally chosen that applied not only to visual arts but to math: geometric, pattern, proportion, horizon/horizontal, symmetrical). Students added the words to their journal. The class was asked to share any definitions to the words they may have already known (or thought they knew). The class then looked them up in the dictionary and added the definitions to the journals.

3. Students looked in books and magazines to find pictures that represented the word(s). As a group the students shared the

pictures and explained why they chose them. Any misconceptions could be clarified at that time.

4. Technology lessons on visual literacy were taught on how to take digital pictures, what a snapshot was, and how to print digital pictures. That was a lengthy process and was comprised of multiple lessons: how to operate a digital camera, what was special about a snapshot, how to take snapshots, how to choose your best picture, and how to print your picture using a photo printer. These lessons were from I Wanna Take Me A Picture, by Wendy Ewald.

5. After class discussions the students would work in pairs or on their own to find an accurate visual representation of the five words that were assigned to them in step #2. The goal was for each individual to find a visual representation that made sense to them.

6. Student could take a digital picture of the representation, print it, and add it to the journal by the word and definition.

7. Students began to collect words on their own, add them to their journals, and work on collecting/taking pictures during the

allocated time each week. Journals were kept accessible so that students could use them during class.

8. At the end of each session students shared their work. This was an opportunity to connect language and the visual image.

9. During each session the teacher collected anecdotal records for the identified students. The data collected was determined before each lesson and based on the information collected from the previous lesson.

10. Each month the teacher collected data by interview or questionnaire. The questionnaires were designed to clarify misconceptions, identify successes, and to further drive instruction.

Treatment of Data

Questionnaires were used to analyze the students understanding of the process of photo journaling over time. The picture/photo journals and anecdotal data were analyzed to determine if the visual processes were facilitating increased comprehension of the content and vocabulary comprehension.

Summary

This study presented a strategy for building visual literacy skills through reflection of images to clarify curricular concepts in the classroom and discussions with students to assess their comprehension.

Washington state schools were required to teach visual arts. With that in mind this study was developed to use visual arts and technology to work on closing the achievement gap for second language learners and promote optimum learning for all students by bringing words and their meaning to life to enhance learning.

The Descriptive Research Method was used to collect data. The whole class was involved in the process but questionnaires and anecdotal records were kept on a sample group of students. The sample group reflected the diverse demographics of the classroom.

Anecdotal records, checklists, and questionnaires were kept on a weekly basis and the information was collected in individual

files. The author assessed the data collected and used this information to inform further teaching.

The study was based on a self-reporting model. The author conducted interviews, had students fill out questionnaires that were developed to collect relevant data. The results were analyzed and recorded. The objective was for students to make a picture/photo journals/dictionary in which they would collect visual representations of words, ideas, and concepts that were unclear to them, or they had a misconception of.

The process of setting up a picture/photo journal/dictionary was modeled by the author. Students were taught how to access pictures, use a digital camera, take snapshots, and how to print the pictures to add to their photo journals. Pictures were shared with classmates and conversations were encouraged to promote language development and comprehension. Picture/photo journal/dictionaries were then used on a daily basis for clarification/help during the school day.

The picture/photo journal/dictionaries and the anecdotal data were used to determine if the added visual process aided the students in their comprehension of the curriculum content.

CHAPTER 4

Analysis of the Data

Introduction

The purpose of this research was to determine the outcome of intentional teaching of math vocabulary by connecting math concepts with visual arts strategies which allowed students to imprint the concept by adding a visual. This deliberate teaching would improve student comprehension.

Description of the Environment

The project took place in a third grade classroom in a small elementary school in Yakima, Washington. The school was comprised of grades first through eighth grades, with one classroom at each grade level. The class was comprised of 15 females and 11 males. The project was launched in September and ended in February. Curriculum used in the classroom was prescribed by the district; Investigations for math, Open Court for reading, and Carolina Biological for science. That curriculum was augmented with lessons in visual literacy, art, social studies, and technology. The curriculum was integrated when

appropriate. The environment was organized and structured; students were engaged in constructivist learning opportunities when possible. Classroom Based Assessments were used to collect data for the project.

Hypothesis/Research Question

The author's hypothesis was that students would gain understanding of required math and visual literacy vocabulary via the integration of the curriculum, the teaching of math vocabulary/concepts were taught by attaching a visual connection. Content vocabulary from math and visual arts was aligned and taught as an integrated curriculum.

Results of the Study

The study began with a survey which posed questions that asked students how they believed they learned best. The students answered on a linear continuum. As a result of the survey most third and fourth grade students stated that they learned better by reading and looking at pictures. Most fourth grade students knew how to use a dictionary whereas most third grade students did not. All fourth grade students knew how to

use a digital camera to some extent compared to two thirds of the third grade students. Fourth graders who were taught visual arts the previous year knew the meaning of the concept. Most third and fourth graders stated they learned better by seeing a picture and having an explanation/definition at the same time.

Survey Results for 3rd & 4th grade students 9/10/09.

Mark where you feel you are. It can be on the word or anywhere in between.

- How do you learn better; reading about something or seeing something?

	Reading		Reading and Seeing		Seeing	
3 rd	2	0	21	3	0	
4 th	2	6	11	5	5	

- Do you know how to use a dictionary?

	Not Yet		I'm Learning		I'm good at it	
3 rd	4	2	7	2	11	
4 th	0	0	5	6	17	

- Have you ever used a digital camera?

	Not Yet		I'm Learning		I'm good at it	
3 rd	5	2	2	2	15	
4 th	0	2	2	6	21	

- Do you know what the word visual means?

	Not a clue		I have an idea		I can tell you now	
3 rd	11	7	4	1	3	
4 th	2	6	10	4	7	

- Do you think you would understand it better if I showed you a picture or if I explained it in words?

	Show me a picture		Show me a picture and explain		explain	
3 rd	2	4	16	2	2	
4 th	0	5	12	6	6	

A graphic organizer displaying five math/visual arts words; line, balance, proportion, pattern, and horizontal contained a portion for a written definition and one for an illustration. Students were asked to fill in as much information as they could in any section. The pretest was given to the current third grade class and also to the fourth grade class. The basis for giving the test to the fourth grade students was to see if they retained the visual literacy lessons they had been taught the previous year from this researcher.

Baseline scores for 4th grade

<u>Written definition</u>			
	No Response	Incorrect Response	Correct
Line			
Sept.	3	4	17
Balance			
Sept.	5	12	7
Proportion			
Sept.	17	7	0
Pattern			
Sept.	5	7	12
Horizontal			
Sept.	8	15	1
<u>Illustration</u>			
Line			
Sept.	2	0	22
Balance			
Sept.	2	5	17
Proportion			
Sept.	18	16	0
Pattern			
Sept.	3	3	18
Horizontal			
Sept.	4	16	4

Through the use of journals, the teacher and students were able to record data for this project. Close interactions and observations were gathered from learners to better emphasize the learning.

Comparison of Scores from September to January, 3rd grade

Written definition

	No Response	Incorrect Response	Correct
Line			
Sept.	15	4	7
Jan.	1	2	23
Balance			
Sept.	11	10	5
Jan.	2	8	16
Proportion			
Sept.	23	3	0
Jan.	3	13	10
Pattern			
Sept.	16	2	8
Jan.	1	2	23
Horizontal			
Sept.	24	1	1
Jan.	2	10	14

Illustration

Line			
Sept.	2	1	23
Jan.	1	0	25
Balance			
Sept.	5	6	15
Jan.	2	0	24
Proportion			
Sept.	24	1	1
Jan.	0	6	20
Pattern			
Sept.	4	0	21
Jan.	1	0	25
Horizontal			
Sept.	22	1	6
Jan.	1	11	14

Findings

The baseline data for the fourth grade class showed that students felt confident in responding to the questionnaire for four of the words and that they were unfamiliar with the word proportion. The data shows that when given the opportunity to illustrate as opposed to define in words the students were more successful.

Third grade students were given the same pretest in September and also a post test in January. In the written response section in September 17% of the students were able to define the five words in writing. After intentionally teaching dictionary skills, 69% of the students were able to define the five words in January. In the illustration section 53% of the students were able to draw a correct representation in September and 86% were able to draw a correct representation in January. Overall there was an increase of 52% by intentionally teaching dictionary skills and how to attach a visual meaning to words. There was a 33% increase in visual representation of words.

Discussion

The author believed that the result of the study would be a positive impact on student learning. The expectation that the visual connection would enhance understanding was proven. The surprise to the author was the degree of impact that intentionally teaching dictionary skills with a consistently used graphic organizer, along with connecting the visual, would have such a positive impact. Students given opportunities to learn through visual means increased their chances of internalizing the content as believed by John Debes. Giving the learner an opportunity to draw, arrange visuals, link the pictures to content vocabulary, is to almost guarantee a highly involved learner. This was individualized, and personalized learning. (John Debes, 1971) Although somewhat harder to interpret, qualitative, naturalistic studies have gained respect, in particular those that involve personal reflection.

In contrast to experimental and quantitative studies that manipulated factors in order to produce generalizations,

naturalistic studies explored the meanings and interpretations teachers gave to their everyday lives. As educational researchers recognized the complexity of teaching and of learning to teach, more and more studies turned to such qualitative methods. (Colton & Sparks-Langer, 1991, p.42)

Summary

The author set out to determine the impact of intentionally teaching math vocabulary through definition accompanied by a visual representation to enhance internalization of the concept. By using district curriculum enhanced with visual literacy strategies the author intended to prove a positive impact. The author's hypothesis was that students would gain understanding of required math and visual arts vocabulary through integration of curriculum, teaching of math concepts via an added visual means. The findings by the author proved to support this hypothesis. Students increased dictionary skills, learned math concepts and were able to define them visually and in writing at a consistently higher rate from September to January.

CHAPTER 5

Summary, Conclusions and Recommendations

Introduction

The purpose of this research was to determine the outcome of intentional teaching of math vocabulary by connecting math concepts with visual arts which allowed students to imprint the concept by adding a visual. This deliberate teaching would improve student comprehension.

Summary

This project focused on students using visuals to help imprint a picture in their memory of a concept that was common to math and visual literacy. John Debes was an integral part of a movement in the early 1970s that was interested in impacting the way students learned. He wanted to investigate a model that made it possible to conceive more clearly how the kinds of learning experiences we offered children in Visual literacy programs favorably affected the literacy of their other senses. With such model in mind researchers were able to proceed more confidently and developed new practices and developed curricula, technology, and expressions that allowed students to show their learning.

Students established journal/dictionaries in order to collect vocabulary, definitions, and a visual of content words. Identifying the vocabulary and concepts through visuals allowed students to make their learning relevant to school and to connect the learning to their personal lives. This form of data collection modeled for students how to put their ideas into pictures along with the written definition in order to experience greater success in the classroom.

The author became aware of the visual literacy movement and its positive impact on students while researching the requirements for the Washington State Classroom Based Performance Assessment requirements for The Arts. According to the Washington Assessment of Student Learning (WASL) scores, students had steadily falling math scores. The author believed that by combining visual literacy, visual literacy vocabulary, and math vocabulary, that math comprehension would improve.

The project took place in a third grade classroom. The class was comprised of 15 females and 11 males. Of the twenty six students, six were Hispanic, and eight had some degree of special need. Data was gathered from September 2009 to February 2010. The research base focused on the impact of

visuals in the classroom and how students could be engaged through this process. The class used picture/journal/dictionaries to collect data to show the impact of intentional teaching of visual literacy strategies.

Research indicated that visual literacy strategies could impact learning in the classroom. Students could be engaged through the strategies, second language students and special needs students could be positively impacted. Washington State would require CBAs conducted in classrooms.

Students built a working journal in order to understand content vocabulary and unfamiliar math and visual arts concepts. A descriptive research model was used to collect data which was based on the journals. Surveys and questionnaires were also used to collect data. A procedure was established and followed throughout the process.

Conclusions

The data was analyzed and the author determined that the visual literacy strategies had a positive impact on student learning. This was the author's hypothesis which was supported by the research reviewed at the beginning of the project. As a result of the initial survey the author concluded that the students who were taught how to use a dictionary retained the knowledge

in the subsequent year. Those students also retained concepts that had been taught through the use of visual literacy strategies. The students that had not previously been exposed to visual literacy strategies gained knowledge from the onset of the project to the conclusion. Visual literacy strategies helped all students learn, including second language and special needs students. Students were more willing to take a risk if they could respond in visuals and not just words.

Recommendations

Based on the conclusion, the researcher would recommend that teachers intentionally teach visual literacy strategies to all students. The school district could focus learning improvement opportunities around the concept of visual literacy connected to the Washington State Essential Learnings. The Arts CBPS and CBAs could be the foundation. The author knows that in the past she had been handed a binder, sans any training, for conducting Social Studies CBAs in the classroom. This is not a good way to involve participants, students/teachers, in this type of a process. The author would like to see the district conduct meaningful training opportunities in the area of the arts, visual arts, to give

credibility to the upcoming mandatory testing that looms on the horizon.

References:

APPENDIX A

APPENDIX B

APPENDIX C

APPENDIX D

