Culminating Experience Action Research Projects, Volume 8, Part 1, Spring 2006

Edited by
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The University of Tennessee at Chattanooga

Introduction

As a part of the teacher licensure program at the graduate level at The University of Tennessee at Chattanooga (UTC), the M.Ed. Licensure candidate is required to complete an action research project during a 3-semester-hour course that coincides with the 9-semester-hour student teaching experience. This course, Education 590 Culminating Experience, requires the student to implement an action research plan designed through (a) the Education 500 Introduction to Inquiry course, (b) one of the two learning assessments required during student teaching, or (c) a newly-designed project not used as one of the learning assessments.

With funding through a UTC Teaching, Learning, and Technology Faculty Fellows award, the Education 590 course is conducted through the use of an online, course management system (Blackboard Learning System Release 6), allowing for asynchronous discussion and use of the digital drop box feature for submitting required papers.

The course syllabus for Education 590 Culminating Experience is presented in the next section, followed by action research projects from spring semester 2006 (part 1).

Deborah A. McAllister

Sarah C. Fritch

February 2007

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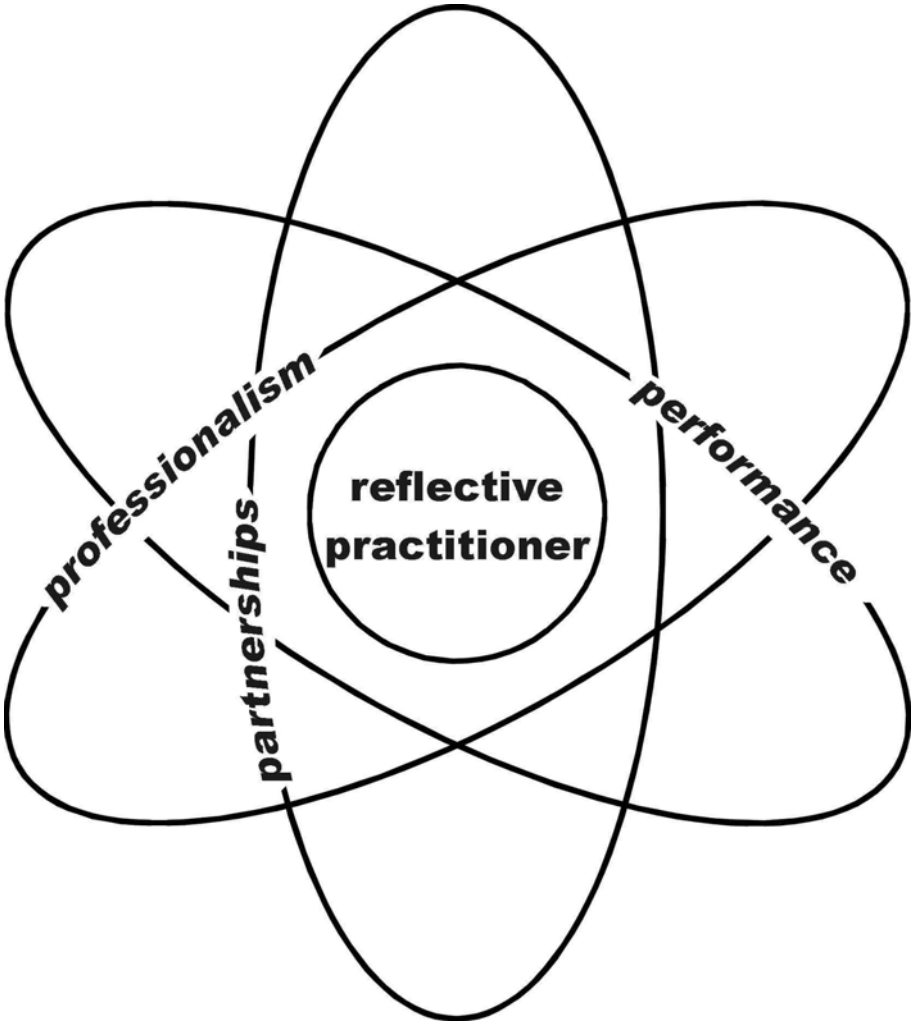

ATTENTION: If you are a student with a disability (e.g., physical, learning, psychiatric, etc.) and think that you might need assistance or an academic accommodation in this class or any other class, contact the Office for Students with Disabilities at 423-425-4006 or come by the office, 102 Frist Hall.

To enhance student services, the University will use your UTC email address (firstname-lastname@utc.edu) for communications. (See http://onenet.utc.edu/ for your exact address.) Please check your UTC email on a regular basis. If you have problems with accessing your email account, contact the Help Desk at 423-425-2678.

Educ 590 Culminating Experience – Spring 2006
Section 001, By Appointment, 3 credit hours

Instructor

Dr. Deborah A. McAllister
Office: Hunter 310C
Office hours: M 11:00 a.m. to 5:00 p.m. and Tu 1:00 p.m. to 4:00 p.m., or by appointment
Phone: 423-425-5376 (Office), 423-842-1607 (Home)
Email: Deborah-McAllister@utc.edu
Web site: http://oneweb.utc.edu/~deborah-mcallister/
Graduate Assistant: Bob Richards

Catalog description

Directed research or development project under faculty supervision. *Prerequisite: Admission to candidacy, approval of M.Ed. committee.*

Recommended text and Web sites

American Psychological Association. (2001). *Publication manual of the American Psychological Association* (5th ed.). Washington, DC: Author.

Online Writing Lab at Purdue University. (2004). *Using APA format.* Retrieved December 5, 2005, from http://owl.english.purdue.edu/handouts/research/r_apa.html

Degelman, D., & Harris, M. L. (2005). *APA style essentials.* Retrieved December 5, 2005, from http://www.vanguard.edu/faculty/ddegelman/index.cfm?doc_id=796

University of Wisconsin - Madison Writing Center. (2004). *Writer's handbook: APA documentation style.* Retrieved December 5, 2005, from http://www.wisc.edu/writing/Handbook/DocAPA.html

Objectives

1. The student can apply a variety of research strategies for use in the elementary, middle grades, and/or secondary classroom, or with professionals in the field. Reflective decision making, a process involving reading, reflecting, and responding, will be applied by the student to evaluate ongoing research techniques, procedures, and materials, in order to become a reflective practitioner.
2. The student will select or design surveys and/or rubrics for data collection in the content area.
3. The student will understand current issues in the content area, including current research methods, materials, professional development and grant opportunities, and programs suitable to all learners, from exceptional populations to diverse ethnic and cultural groups.
4. The student will demonstrate the ability to connect new learning with prior knowledge and skills through a case study conducted during the Induction Experience.

Requirements

1. Select a case study option:
   a. Implementation of the project designed in Educ 500 as your case study. Include modifications to the project, if necessary, based on knowledge gained since the completion of Educ 500. Submit a corrected copy.
   b. Plan to use one of your learning assessments from your first placement as your case study. Submit an outline of the topic, what will be assessed, who will be assessed, how and when assessment will occur, and what instruments will be used. Submit an outline.
   c. Design a new project of your own choosing. Submit an outline for approval.

2. **Prior to data collection, complete the REQUIRED process for UTC's Institutional Review Board For the Protection of Human Research Subjects (http://www.utc.edu/~instrb/). Request either an Exemption from IRB Review (Form A) if your sample includes only adults, or an Expedited Review (Form B), if your sample includes children. Form C must be completed at the end of the study. I will print Form C for you to sign. Review the information and forms on the IRB Web site for additional details. An Exemption requires approximately 1 week to process. An Expedited Review may require several weeks to process. (Full board approval is required if there is more than minimal risk to the subject.) Any updates to the IRB process will be followed. Submit all documents to me ELECTRONICALLY through the digital drop box in Blackboard, and one [paper] signature page, with your signature; I will make the photocopies after obtaining signatures. Place a page break in your document such that the signature page will contain only signatures. Your instrument, consent form, and/or assent form MUST contain the following statement:**

   THIS PROJECT HAS BEEN REVIEWED BY THE INSTITUTIONAL REVIEW BOARD FOR THE PROTECTION OF HUMAN SUBJECTS AT THE UNIVERSITY OF TENNESSEE AT CHATTANOOGA.

   Your consent and assent forms must include contact information for Drs. McAllister and Eigenberg, and must contain an option for the participant to discontinue participation as a research subject with no penalty. (Students are still required to complete any work for the course.)

   Participation in this study is voluntary. You may discontinue your participation in the project at any time. Your decision whether or not to participate in the project or to withdraw from the project at any time will in no way affect your academic standing in this course. If you do choose to participate in the study, your participation will be completely anonymous. No one reading the results of the research will be able to identify you. (Reword "you" as "the student," etc., for the parental consent form.)

If you have any questions about the project, you may contact me at xxx-xxx-xxxx, Dr. Deborah McAllister, project advisor, at 423-425-5376, or the Chairperson of The University of Tennessee at Chattanooga's Institutional Review Board for the Protection of Human Research Subjects, Dr. Helen Eigenberg, at 423-425-4270.

You must include a memo (preferably, an email attachment) from the school principal that you have permission to carry out the project.

If there is evidence of prior research that you have done or evidence stated in the literature for your project, place that on the IRB approval form (a sentence or two). If not, cite the HCDE standards that are addressed by your project so the IRB members know why you are teaching/investigating the topic. Check the IRB's Review Status link for updates on your proposal.

3. Implementation of the project will be completed during the Induction Experience (Educ 596) or the Professional Teaching Experience (Educ 591). Implementation **cannot** occur prior to IRB approval.

4. Completion of the written project, **in APA style**. Include the following elements, each of which should be centered at the top of that section of the paper (not italic, not bold; see p. 113 in the APA style manual:
   a. Introduction to the Problem. Why was this topic selected for study? Is this topic a current national, state, or local issue? Is this topic a staple of the curriculum in your field? Etc.
   b. Review of Literature. Use at least five refereed sources. The online Education Resources Information Center (ERIC) advanced search should be used to locate references in educational journals and documents. See ERIC (http://www.eric.ed.gov/) and/or select the link to the advanced search. **You must use a page number or a paragraph number for all direct quotes. All references should contain complete page numbers (not the first page only, as may be listed in online documents).**
   c. Data Collection and Results. Describe data collection procedures. Provide results of the project, in narrative form and including a chart and/or graph to display the data collected. Analysis of results is from the perspective of higher order cognitive skills. Use descriptive statistical measures (mean, median, mode, frequency distribution, charts, graphs, etc.) for communication of project results. Charts and graphs are imported from Excel to Word and cited as tables and figures. See Microsoft Excel [spreadsheet] software, used in Educ 575.
   d. Conclusions and Recommendations. What generalizations, if any, can be made, based on the results of the case study? What is the consensus of your professional organization with regard to the problem studied? What recommendations would you make for teacher professional development? Is grant money available to support further research in this area? What role could be assumed by the use of technology in this area? **Please address all items in this section.**

e. Copies of the instrument(s) used for data collection. Place original instruments in individual appendices. Do not include published instruments from the Web, books, etc., but place a citation on the page that mentions an instrument and in the reference list.

5. Communication:
   a. Current email address registered with UTC for communication between student and instructor. The UTC email address will point to the email address you have on file. See http://itd.utc.edu/email/stu_saindex.shtml for more details.
   b. Web access to check course announcements and post messages to the discussion forum on Blackboard a minimum of once per week. See http://bb2.utc.edu/.

6. All work is to be computer-generated and turned in through the Blackboard digital drop box. You may complete your project either on the Macintosh or Windows platform. Please use Microsoft Word and Microsoft Excel. If other software is to be used, please ask for approval. Keep a copy of your work on a hard drive or a disk so that it can be accessed, if needed. Reminder: You will need a student ID card to use the university student lab in the University Center.

7. Please note:
   a. Ask another person to proofread your work for correct syntax and semantics before submitting it. You are encouraged to post it to the Blackboard discussion forum.
   b. The Writing Center is located in 119 Holt Hall. See http://www.utc.edu/~scribble/ for hours and information.
   c. Case studies may be displayed at a professional meeting and/or gathered for a publication.

Grading rubric

Criteria	A	B	C	F
Project outline and IRB approval	Submitted online. Submitted for IRB approval; approval received.	Submitted online. Submitted for IRB approval; approval received.	Submitted online. Submitted for IRB approval; approval received.	Not submitted online. Not submitted for IRB approval, or IRB approval denied.
Instruments	Items appear to be reliable and valid for the case study.	Items appear to be reliable and valid for the case study.	Reliability or validity is questionable.	Reliability and validity cannot be defended.
Data collection and results	Narrative gives descriptive account of data collection and results, and higher order analysis of results; data chart and graph display results accurately and appropriately.	Narrative provides descriptive account of data collection and results, but analysis of results is weak; data chart and graph display results satisfactorily.	Narrative provides limited descriptive account of data collection and results; analysis of results is flawed; data chart and graph display results, but contain errors.	Neither narrative nor chart and graph convey the data collection procedures and results of the study.
Conclusions and recommendations	Provides a cohesive summary to the project; all recommendation areas addressed satisfactorily.	Provides a cohesive summary to the project; most recommendation areas addressed satisfactorily.	Summary lacks insight to the intent of the project; recommendation areas not completely addressed.	Conclusions do not reflect results; recommendation areas not completely addressed.
APA style	APA style elements present: headings, subject-verb agreement, citations, references, abbreviations, commas, semicolons, lists, tables, figures, appendices, etc.	APA style elements present, with minor errors.	Ideas are understandable; acceptable writing style, though not APA.	Written style is inconsistent; difficult to follow the flow of ideas.
Spelling and typographical errors	No spelling errors; minimal typographical errors; correct use of plural and possessive forms.	Spelling and typographical errors present.	Errors detract from quality of project.	Poorly written.
Completion time	All elements completed on time.	Major elements completed on time; some minor elements late.	Most major elements completed late; some or most minor elements late.	No time deadline.
Communication	Open communication between student and instructor. Progress message posted to the discussion forum at least weekly.	Response time is less than once each week.	Response time is less than once in 2 weeks	Response time is less than once in 4 weeks.
Professional quality and usefulness	Previous and current suggestions, and modifications, fully incorporated into project outline; project is relevant to education.	Previous and current suggestions, and modifications, selectively incorporated into project outline; project is relevant to education.	Previous and current suggestions, and modifications, minimally incorporated into project outline; project is relevant to education.	Previous and current suggestions, and modifications, not incorporated into project outline; project has little relevance to education.
Represents graduate level work	Completed project is presented as a coherent whole.	All project elements present but project is not presented as a coherent whole.	One or more project elements missing; project is not presented as a coherent whole.	Major project elements missing; project is not presented as a coherent whole.

Week (Tentative course schedule, subject to change.)		**Assignment due**
1	Week of 01/09/06 (and prior meeting 12/06/05) Student teacher meetings; First placement begins	Check email account; access Blackboard. Educ 590 will meet on 01/09 at 12:30 p.m.
2	Week of 01/16/06 01/16 – MLK holiday	Case study option selected; proposed outline posted to discussion forum. **Paperwork submitted for IRB approval (Exemption/Form A, Expedited Review/Form B). Instruments must be included with both Form A and Form B. Parental consent form and student assent form must be included with Form B. Participant consent form must be included with Form A. Copy of IRB approval placed in my mailbox in Hunter 311, when received, if not sent by email.**
3	Week of 01/23/06	Begin case study work on introduction, review of literature, and instruments; place file in digital drop box for review and for a check of APA style.
4	Week of 01/30/06	Begin data collection, with IRB approval.
5	Week of 02/06/06	Case study work continues.
6	Week of 02/13/06	Case study work continues.
7	Week of 02/20/06 (02/20 – HCDE/Presidents' Day holiday)	Case study work continues.
8	Week of 02/27/06 First placement ends	Data collection is complete.
9	Week of 03/06/06 Second placement begins	Writing of case study.
10	Week of 03/13/06 (UTC spring break)	Writing of case study.
11	Week of 03/20/06 (HCDE spring break)	Writing of case study.
12	Week of 03/27/06	Writing of case study.
13	Week of 04/03/06	Writing of case study.
14	Week of 04/10/06	Proofreading of case study.
15	Week of 04/17/06	**Completed case study due, Sa 04/22/06, 12:00 p.m. (noon) Case study assembled in a single file; placed in digital drop box.**
16	Week of 04/24/06 04/24 - UTC last day of classes Second placement ends, Student teacher meetings	**Late case studies accepted.** **IRB Form C completed when we meet** **(I will provide Form C.)**
17	Week of 05/01/06 Th 05/04/06 - Grades due for all students, 12:00 p.m. Su 05/07/06 - Commencement, 2:00 p.m.	**Late case studies accepted; not guaranteed to be graded by 05/04/06.**

APA style (general guidelines; use reverse indent)

1. Journal

Last name, Initials., & Last name, Initials. (year). Title of the article in lower case letters except first letter of the title and proper nouns. *Journal name, volume*(number), page number-page number.

Many, W., Lockard, J., Abrams, P., & Friker, W. (1988). The effect of learning to program in Logo on reasoning skills of junior high school students. *Journal of Educational Computing Research, 4*(2), 203-213.

2. Book

Last name, Initials., & Last name, Initials. (year). *Title of the book in lower case letters except first letter of the title and proper nouns.* Place of publication: Publishing Company.

Turner, T. N. (1994). *Essentials of classroom teaching elementary social studies.* Needham Heights, MA: Allyn and Bacon.

3. Software

Last name, Initials., & Last name, Initials. (year). *Title of the Software in Upper Case First Letters* [Computer software]. Place of publication: Publishing Company.

Microsoft Corporation. (1996). *Encarta 97 Encyclopedia* [Computer software]. Redmond, WA: Author.

In example 3, the author and the publishing company are the same, so the word 'Author' is used.

4. Online source

Last name, Initials., & Last name, Initials. (year). *Title of the Web site in lower case letters except first letter of the title and proper nouns*. Retrieved today's date, from complete URL

National Council of Teachers of Mathematics. (2000). *Principles and standards for school mathematics*. Retrieved December 5, 2005, from http://standards.nctm.org/

In example 4, I omit the period '.' at the end so it will not be confused in the address. Others choose to leave one space, then place the period at the end of the URL.

5. ERIC document

Last name, Initials., & Last name, Initials. (year). *Title of the paper in lower case letters except first letter of the title and proper nouns.* Paper presented at name, place, and date of conference, or other relevant information. (ERIC Document Reproduction Service No. XXXXXX)

McAllister, D. A., Mealer, A., Moyer, P. S., McDonald, S. A., & Peoples, J. B. (2003). *Chattanooga math trail: Community mathematics modules, volume 1*. Washington, DC: U.S. Copyright Office. (ERIC Document Reproduction Service No. ED478915)

Professional Organizations (examples)

American Council on the Teaching of Foreign Languages. (2005). Retrieved December 5, 2005, from http://www.actfl.org/
Council for Exceptional Children. (2005). Retrieved December 5, 2005, from http://www.cec.sped.org/
International Reading Association. (2005). Retrieved December 5, 2005, from http://www.reading.org/
International Society for Technology in Education. (n.d.). Retrieved December 5, 2005, from http://www.iste.org/
National Art Education Association. (2005). Retrieved December 5, 2005, from http://www.naea-reston.org/
National Association for Music Education. (n.d.). Retrieved December 5, 2005, from http://www.menc.org/
National Association for the Education of Young Children. (n.d.). Retrieved December 5, 2005, from http://www.naeyc.org/
National Council for the Social Studies. (2005). Retrieved December 5, 2005, from http://www.ncss.org/
National Council of Teachers of English. (2005). Retrieved December 5, 2005, from http://www.ncte.org/
National Council of Teachers of Mathematics. (2005). Retrieved December 5, 2005, from http://www.nctm.org/
National Middle School Association. (2005). Retrieved December 5, 2005, from http://www.nmsa.org/
National Science Teachers Association. (2005). Retrieved December 5, 2005, from http://www.nsta.org/

Rubrics (examples)

Chicago Public Schools. (2000). *The rubric bank.* Retrieved December 5, 2005, from http://intranet.cps.k12.il.us/Assessments/Ideas_and_Rubrics/Rubric_Bank/rubric_bank.html
Chicago Public Schools. (2000). *How to create a rubric.* Retrieved December 5, 2005, from http://intranet.cps.k12.il.us/Assessments/Ideas_and_Rubrics/Create_Rubric/create_rubric.html
LessonPlanZ.com. (2005). Retrieved December 5, 2005, from http://lessonplanz.com/ (use 'rubric' as a search term)
South Dakota State University. (n.d.). *Rubric template.* Retrieved December 5, 2005, from http://edweb.sdsu.edu/triton/july/rubrics/Rubric_Template.html
Teachnology. (2005). Rubric, rubrics, teacher rubric makers. Retrieved December 5, 2005, from http://teachers.teach-nology.com/web_tools/rubrics/
The Landmark Project. (n.d.). *Rubric construction set.* Retrieved December 5, 2005, from http://landmark-project.com/classweb/rubrics/4x4rubric.html

Surveys (examples)

The International Consortium for the Advancement of Academic Publication. (2004). *Resources for methods in evaluation and social research.* Retrieved December 5, 2005, from http://gsociology.icaap.org/methods/

University of Southern Indiana Sociology Department. (2005). *Social research and statistical links.* Retrieved December 5, 2005, from http://www.usi.edu/libarts/socio/stats.htm

Bibliography

American Association for the Advancement of Science. (1993). *Benchmarks for science literacy*. Retrieved December 5, 2005, from http://www.project2061.org/tools/benchol/bolintro.htm

Association of College and Research Libraries. (2005). *Information literacy competency standards for higher education*. Retrieved December 5, 2005, from http://www.ala.org/acrl/ilstandardlo.html

Creswell, J. W. (2005). *Research design: Planning, conduction, and evaluating quantitative and qualitative research*. Upper Saddle River, NJ: Pearson Education, Inc.

Fogarty, R. (1995). *The mindful school: How to integrate the curricula awareness program.* Palatine, IL: IRI/Skylight Training and Publishing, Inc.

Freiberg, H. J., Driscoll, A., & Stetson, R. H. (1992). *Universal teaching strategies.* Boston, MA: Allyn and Bacon.

Gay, L. R., & Airasian, P. (2003). *Educational research: Competencies for analysis and applications* (7th ed.). Upper Saddle River, NJ: Pearson Education, Inc.

Hamilton County Department of Education. (2005). *HCDE standards and benchmarks*. Retrieved December 5, 2005, from http://www.hcde.org/standards/stindex.html

Institute of Education Sciences. (n.d.). *Education resources information center: Welcome to the ERIC database*. Retrieved December 5, 2005, from http://www.eric.ed.gov/

Johnson, A. P. (2005). *A short guide to action research* (2nd ed.). Boston, MA: Pearson Education, Inc.

Leedy, P. D., & Ormrod, J. E. (2005). *Practical research: Planning and design*. Upper Saddle River, NJ: Pearson Education, Inc.

Martin, D. B. (1999). *The portfolio planner.* Upper Saddle River, NJ: Prentice-Hall, Inc.

McAllister, D. A. (2005). *Faculty page – McAllister*. Retrieved December 5, 2005, from http://oneweb.utc.edu/~deborah-mcallister/

McMillan, J. H., & Schumacher, S. (2001). *Research in education* (5th ed.). New York, NY: Addison Wesley Longman, Inc.

Menges, R. J., & Weimer, M. (1996). *Teaching on solid ground: Using scholarship to improve practice.* San Francisco, CA: Jossey-Bass Inc.

Mills, G. E. (2003). *Action research: A guide for the teacher researcher* (2nd ed.). Upper Saddle River, NJ: Pearson Education, Inc.

Mills, S. C., & Roblyer, M. D. (2003). *Technology tools for teachers: A Microsoft Office tutorial.* Upper Saddle River, NJ: Pearson Education, Inc.

National Council of Teachers of Mathematics. (2000). *Principles and standards for school mathematics*. Retrieved December 5, 2005, from http://standards.nctm.org/

National Research Council. (1999). *How people learn.* Washington, DC: National Academy Press. (see also http://www.nap.edu/readingroom/books/howpeople1/notice.html)

National Research Council. (1995). *National science education standards*. Retrieved December 5, 2005, from http://www.nap.edu/readingroom/books/nses/

Novak, J. D., & Gowin, D. B. (1984). *Learning how to learn.* New York, NY: Cambridge University Press.

Palloff, R. M., & Pratt, K. (2001). *Lessons from the cyberspace classroom: The realities of online teaching.* San Francisco, CA: Jossey-Bass Inc.

Provenzo, E. F., Jr. (2002). *The Internet and the World Wide Web for teachers.* Needham Heights, MA: Allyn & Bacon.

Reed, A. J. S., & Bergemann, V. E. (2001). *A guide to observation, participation, and reflection in the classroom* (4th ed.). New York, NY: McGraw-Hill.

Roblyer, M. D. (2003). *Integrating educational technology into teaching* (3rd ed.). Upper Saddle River, NJ: Pearson Education, Inc.

Roblyer, M. D. (2003). *Starting out on the Internet: A learning journey for teachers* (2nd ed.). Upper Saddle River, NJ: Pearson Education, Inc.

Tennessee Department of Education. (n.d.). *Curriculum standards*. Retrieved December 5, 2005, from http://www.state.tn.us/education/ci/standards/index.php

Thomas, R. M. (2005). *Teachers doing research: An introductory guidebook*. Boston, MA: Pearson Education, Inc.

Treffinger, D. J., Hohn, R. L., & Feldhusen, J. F. (1979). *Reach each you teach.* Buffalo, NY: D. O. K. Publishers, Inc.

Tuckman, B. W. (1999). *Conducting educational research* (5th ed.). Fort Worth, TX: Harcourt Brace & Company.

Items available in Lupton Library

Campbell, L., Campbell, B., & Dickinson, D. (1996). *Teaching and learning through multiple intelligences.* Needham Heights, MA: Allyn and Bacon.

Haladyna, T. M. (1997). *Writing test items to evaluate higher order thinking.* Boston, MA: Allyn and Bacon.

Krulik, S., & Rudnick, J. A. (1995). *The new sourcebook for teaching reasoning and problem solving in elementary schools.* Boston, MA: Allyn and Bacon.

Ross, S. M., & Morrison, G. R. (1995). *Getting started in instructional technology research.* Washington, DC: Association for Educational Communications and Technology.

Silberman, M. L. (1996). *Active learning: 101 strategies to teach any subject.* Boston, MA: Allyn and Bacon.

Wilson, B. G. (Ed.). (1996). *Constructivist learning environment: Case studies in instructional design.* Englewood Cliffs, NJ: Educational Technology Publications.

Winning the Accelerated Reader Game: The Effects of Student Choice and Peer Sharing on Attitudes toward Independent Reading in an Accelerated Reader Program

Chris Bailey

The University of Tennessee at Chattanooga

EDUC 590, Spring, 2006

The Institutional Review Board of the University of Tennessee at Chattanooga (FWA00004149) has approved this research project 06-228

Introduction to the Problem

Area of Focus Statement

The purpose of this study is to determine which literacy instruction practices should be incorporated into the planning for a new elementary-level Accelerated Reader program in order to maximize the possible benefits of the program and mitigate the unintended negative effects that have been identified in the literature. Specifically, the research will test the hypothesis that the availability of high-interest reading materials and peer sharing of books (two established literacy enhancers) will improve attitudes toward independent reading among fifth grade students and will offset the depression of reading for pleasure that sometimes occurs with Accelerated Reader.

Statement of the Problem

The Accelerated Reader (AR) program is the most widely used motivational reading program in the United States. It is currently being implemented in over half of the school districts in the country. In many school districts, AR forms the core of literacy instruction and has become a major determinant for reading assessment and grades. AR also influences school library programs and collections. As the program contains elements of competition and rewards, it also affects the social interactions of students.

Remarkably, for a program that is so popular, so widespread, and has become such an important part of instruction, there has been little independent scholarly research undertaken on AR. Research results are often conflicting or inconclusive. Some are positive and seem to support the marketing claims that "Accelerated Reader improves reading skills and creates lifelong readers." Conversely, as is true of most new and controversial educational initiatives, the program also has its share of critics and doubters. Some research, reports, and anecdotal

evidence indicate that AR has had some negative "unintentional consequences," as outlined below.

Pressure on some teachers to meet AR goals has caused them to alter their literacy instruction. In some cases, the benefits of known literacy enhancers such as sustained silent reading time (SSRT) have been negated or reduced by adoption of AR.

Student attitudes toward independent reading time are often shaped by the structure of the AR program. Many children using the program are choosing books according to length and AR "point" value instead of personal interest level (thought to be the most important predictor of comprehension) or literary value; they are not reading for fun, but are striving to meet their AR goals. Most worrisome of all, many teachers feel AR is not fostering higher-order thinking skills or deep reading. They fear children are reading on the surface, and are not required to use many comprehension skills to answer the AR computer tests.

Research Questions:

The researcher will address these problems by exploring the following questions:

1. How will participating in Accelerated Reader affect teachers' use of "best practices" in literacy instruction?

2. How will participating in AR affect students' choice of books and attitudes about reading?

3. Working within the framework of AR, what changes or additions can be made to the overall literacy program to maximize the positive effects of AR and mitigate the negative effects?

Review of Literature

Accelerated Reader (AR) is a commercial, computer-based, reading incentive program that is currently being used in half of the school districts in the United States (Trelease, 2004). Promotional materials from the School Renaissance Institute, the marketers of AR, claim that

AR is "The World's Most Popular Pre-K-12 Reading Software" (School Renaissance Institute, 200l, p. 12).

The program involves five basic steps:

1. The student takes the STAR (Standardized Test for Assessment of Reading) test to determine reading ability level and is assigned a color-coded AR level.
2. The student reads a book of his choosing from the assigned reading level.
3. The student takes a 10-question, multiple-choice "comprehension" test on the computer.
4. The student receives instant feedback on his test score, and on the awarding of AR "points" for an adequate score. The computer keeps a running total of the points awarded to the individual student.
5. Prizes, awards, and recognition are given to students according to number of points earned.

Components of the program (books, tests, record keeping tools, awards, and prizes) are available individually or combined in packages, so implementation varies widely from school to school. Some schools use the program to increase their library collections; some just purchase tests for a number of books they already have. The program offers prizes and suggestions for incentives and awards, but each school devises its own recognition and prize structure.

However the program is implemented in an individual school, it comes with bold claims from the School Renaissance Institute (2001), which promises that Accelerated Reader (a) will get children excited about books; (b) improves critical thinking skills; (c) builds an intrinsic, life-long love of reading; and (d) gives teacher and student immediate, individualized, constructive feedback to direct ongoing reading practice.

AR's computer-quiz format; instant feedback; finite, quantitative testing; and stated promises of improving student reading scores have helped the program fit right in with the high-stakes testing climate now pervasive in American schools trying to meet the requirements of the No Child Left Behind Act. The promised results of the program are benefits every educator would want for students. Schools are rushing to adopt the program to acquire accountability and "prove" to administrators and parents that they are actively supporting cutting-edge reading initiatives and doing everything they can to improve reading scores.

A review of the literature reveals the central problem with depending on AR to advance literacy learning: Unless it is part of a balanced program of literacy instruction, AR does not fulfill its claims (Biggers, 2001; Krashen, 2003; Pavonetti, Bremer & Cipielewski, 2002; Trelease, 2004).

Complicating the AR research environment are the scarcity of independent, scientifically-based studies presented in refereed journals, the dominance of research generated by the Renaissance Company (parent of AR) (Biggers, 2001; Johnson & Howard, 2003) and the research design problems and lack of variable control intrinsic to school structure (Krashen, 2003). There is so much variety in the variables contributing to qualitative data in the studies that it is difficult, if not impossible, to meaningfully compare or explain the quantitative results. In cases where the establishment of AR seems to have raised reading scores, participation in the program is not supported as the determining factor in the rise in reading achievement (Johnson & Howard, 2003; Murley, 200l; Sadusky & Brem, 2002).

The one element that distinguishes AR from other reading programs-- the computer test aspect-- has not been identified as a literacy enhancer (Applegate, A., Applegate, M., & Quinn, 2002; Krashen, 2003). In every instance where the program is viewed positively, overall,

questions and concerns still remain about unintended consequences of the program, especially concerning student attitudes about reading, literacy instruction, and the rise in pressure and competition. These negative consequences are often obstacles in the path toward achievement of AR goals.

"AR will get children excited about books."

Adoption of the AR Program by a school is usually accompanied by much fanfare, excitement, and positive attention on readers. AR may excite students about winning prizes by reading a large number of books, but there is also troubling evidence that even winners in the "AR game" are reading more, but enjoying it less.

A tendency has been noted for students to choose books not according to their likes or interests, but according to how many points the book is "worth," or according to its point-to-difficulty ratio (reading two short, easy books at the bottom of your level for the same or more points than one more difficult book at the top of the level). Reported comments reveal that these students often are not reading for pleasure:

> When asked if the number of points influences which book might be chosen, one student responds, "Yeah, I just get higher ones so I can get more points." Another comments, "You just want to get it done." (Sadusky & Brem, 2002, p. 22)

A parent comments on her fourth-grader reading a 400-page Harry Potter book in order to get the most points in the least amount of tests, and to have his picture on the hallway bulletin board:

> Two days ago he told me, "You know, Mom, I don't even like Harry Potter

that much. I'm just reading it for the points." (Pavonetti, Brimmer, Cipielewski, 2002, p. 308)

Another parent comments on the downside of AR "incentives:"

The dark side of competition is you make winners and then you make losers. (Sadusky & Brem, 2002, p. 26)

Struggling readers and reluctant readers, the ones that most need incentives to become involved in reading, are not inspired to participate in a game they know they have no chance of winning. Like any other competitive sport, the ones who participate the most are those who have the greatest expectation of success.

"AR improves critical thinking skills."

The AR program requires the student to engage with a text in only one way after initially reading the book: take the 10-question, multiple-choice, computer comprehension test. The literal nature of the tests makes them seemingly easy to pass (Mallete, 2004). The tests measure comprehension by how well students recall factual details in the text, a method that requires only lower-end thinking skills and does not encourage or build the active engagement and extension with the text that is the true mark of a "good reader." These critical thinking skills are developed more readily through more open-ended questions and a retelling of the underlying meaning of a story (Allington, 2001; Applegate A., Applegate, M., & Quinn, 2002; Labbo, 1999).

"AR builds an intrinsic, life-long love of reading."

The seminal study on the long-term effects of rewards on reading, after the termination of the incentive system (McLoyd, 1979), indicates that the use of rewards, such as those featured in Accelerated Reader, actually *inhibits* subsequent reading and does not have a positive effect on reading frequency and enthusiasm.

More recent research supports McLoyd's findings. Extrinsic motivators, particularly tangible rewards, such as those suggested by AR, also reduce internal motivation to read (Cameron & Pierce, 1994; Gambrell & Marinak, cited in Guthried & Wingfield, 1997; Sweet, cited in Guthried & Wingfield, 1997). These studies have shown that students become dependent on the rewards, need more of a "push" to read, and read less frequently once the reward is withdrawn.

One of the few studies that look at the long-term effects of AR indicates that students will not continue to read independently at a high level after they no longer participate in the AR system (Pavonetti, Brimmer, & Cipielewski, 2002). The study seemed to suggest that students who were engaged in AR in elementary school did not read more in middle school compared to those who did not participate during elementary school. In fact, the students in the study who did not have AR at the elementary level were reading more than their AR-veteran peers.

The authors of the study above present their self-termed "theoretical" opinion that AR is essentially a bookkeeping system that has been adapted by schools to become part of reading programs and encourages students to read for points tied to report card grades. It is their contention that this atmosphere does not create readers who enjoy reading.

It should be noted that a representative of Renaissance Learning publicly refuted the findings of Pavonetti, Brimmer, and Cipielewski in a formal letter to the editor of the *Journal of Adolescent and Adult Literacy* (Tardrew, 2003). Renaissance called into question Pavonetti's research methods (claiming that the control and treatment groups were not matched for socio-economic levels) and restated their claims, which were supported by Dr. S. J. Samuels, an author of the National Reading Panel Report. So the debate continues.

"AR gives student and teacher immediate feedback to construct ongoing practice."

AR does provide immediate feedback in the form of an instant score on the comprehension test, and keeps a running total of a student's AR "points" earned. No involvement of the teacher is required. In fact, in some schools where AR makes up the major part of the literacy program, teachers become not much more than record keepers, taking the AR scores right off of the computer to form the basis of reading grades. How teachers choose to use AR information and interact with students in the program to construct ongoing practice is completely open, and varies as much as individual instructional strategies.

Supporters of the program often laud the "independence" of the student reader in AR. It may be this very lack of interchange with an actively engaged teacher modeling good reading strategies that weakens AR's claim of "literacy learning" (Wilhelm, 2001).

A ray of hope emanates from this fog of competing, confusing, and often self-referentially circular research described in the literature. It may be difficult to determine empirically if AR "works," but a shift of perspective on analyzing data may yet yield valuable strategies for achieving the AR goals--the same goals shared universally by educators, students and parents.

That new perspective is simply this: the important factor is not *if* the program is being used, but *how* it is being implemented. This was the conclusion of several researchers on both sides of the debate (Krashen, 2003; Sadusky & Brem, 2002; Vollands, Topping, & Evans, 1999). With that perspective in mind, the literature may be reviewed with an eye toward looking for recurrence and correlations between other factors present alongside AR when gains have been noted.

Foremost among those ancillary factors is the presence of long-established "best practices" in literacy instruction, such as those outlined in the Tennessee Department of Education (2004)report *Content Area Reading*, especially:

1. Reading aloud by a teacher modeling good reading (Applegate A., Applegate, M., & Quinn, 2002; Reutzel, 200l; Salinger, 2003; Trelease, 2001).
2. Sustained Silent Reading Time of 20 minutes or more daily (Hopkins, 2002; Trelease, 200l).
3. Greater access to a choice of high-interest books (Krashen, 2003; Sadusky & Brem, 2002).
4. Deeper engagement in and sharing of what is read with teachers and peers (Applegate A., Applegate, M., & Quinn, 2002; Wilhelm, 2001).

In summary, the core findings revealed through a review of the pertinent literature are the following. When AR was part of a balanced literacy instruction program that included the four elements listed above, made more books available to students, and created more time for them to read during the school day, gains in reading scores were noted. When those conditions were absent, gains were negligible or non-existent, and negative consequences of the program dominated.

Data Collection and Results

Data collection took place at in, a pre-K through fifth grade, urban, magnet school in Chattanooga, Tennessee. Participants included two fifth-grade teachers, the media specialist, 22 students in fifth grade Class A (primary research group), and 10 students in fifth grade Class B (control group). The Accelerated Reader program is currently being adopted under the direction of the media specialist and will soon be available for school-wide implementation. The media

specialist is gathering information and suggestions on the specifics of using Accelerated Reader at the school. The school is on the notice list under the No Child Left Behind Act. Improvement in student literacy and math scores is the current focus of school goals and objectives.

Data Collection began with surveys on literacy instruction and attitudes toward Accelerated Reader taken by the Media Specialist (a teaching librarian) and the two fifth-grade teachers (see Appendix A). Survey results indicated that both fifth-grade teachers provided daily time for Sustained Silent Reading and read aloud to their classes several times per week. Research suggests that these two practices enhance the effectiveness of the Accelerated Reader program, and the teachers plan to continue them.

The teachers reported that the Accelerated Reader program would be a supplemental, not primary, part of their literacy instruction. They indicated that they wanted to learn more about the program and saw the need for technical assistance in initially implementing it. They also anticipated the need for assistance with labeling their classroom libraries for AR. The media specialist supported their suggestions and concerns.

During oral discussions with the researcher, the teachers voiced concerns that the students were not engaged with their independent reading and needed incentives for reading.

The student portion of the research began with a survey on independent reading (see Appendix B). Students were asked to give their preferred reading formats and genres, to indicate how they selected books to read, to indicate their overall attitude about independent reading time, and to identify what they considered the biggest problem with independent reading time. .

Responses were diverse, but some patterns emerged. Out of eight possible formats, the most popular were "regular fiction, mostly words" (9 students) and "magazines" (6 students) (see Figure 1).

Most popular among the genres and subjects on the survey were "scary stories" (selected 9 times), "style and beauty" and "adventure" (7 selections each), "mysteries" (6 selections), and "humor" (5 selections) (see Figure 2). Surprisingly, the boys in the study did not always select the genres that are traditionally popular among boys: sports, sci-fi, and humor.

Format

	Girls	Boys	Total
Fiction: mostly words	6	4	10
Magazines	6	0	6
Graphic Novels	0	0	0
Lots of Pictures	3	0	3
Newspaper, Sports page	0	1	1
Comic Books	0	1	1
Web Pages, Online	1	0	1
Trading Cards	0	0	0
Total			22

Figure 1. Favorite reading material format.

I like to read about:

	Girls	Boys	Total
Animals	1	3	4
Kids my age	4	0	4
Sports	2	1	3
Historical Times	0	1	1
Adventure	5	2	7
Scary Stories	9	0	9
Non-Fiction	0	0	0
Style & Beauty	7	7	14
Movie Stars, Singers	3	0	3
Mysteries	5	1	6
Myths & Legends	0	0	
Biographies	1	1	2
Romance/relationships	4	0	4
Young people/problems	2	1	3
Sci-fi and Fantasy	0	0	
Humor, funny books	3	2	5
How to make things	0	0	0
Hobbies	0	1	1

Figure 2. Favorite subject areas and genres.

Nearly half of the students (10) reported that they had selected the last book they had read, primarily because they were interested in the subject matter.

The individual preferences revealed on the surveys were used to design a special collection of books for free reading time. Books were chosen according to their "high interest" quotient: favorite genres, attractive pictures, pop-ups and 3-D, popular authors, and recommendations from the "Guys Read" Web site. Titles from the classroom library and from the researcher's home library were organized according to format and genre. A few items were purchased specifically in response to answers to the survey and added to the classroom collection. The books were displayed on tabletops and rotating book stands so that they could be easily and quickly reviewed.

The media specialist contributed to the special project collection by assembling good examples of popular genres from the library shelves and putting them on display. She discussed these with the class, and also provided instruction on how to locate favored genres in the library collection. She also made available sets of commercially assembled "high interest books."

The researcher met with each student individually and guided them to the areas of the collection featuring the kinds of books in which they were interested. Students had free choice of all the books in the special collection and in the library collections. They also had the option of bringing a book from home.

Special preferences indicated by the students were taken into consideration. For example, two students expressed preferences for reading magazines about beauty, style, and "doing hair." They both stated that they preferred to read with a partner. These two were provided with beauty and hairstyle magazines, and were allowed to read together as partners.

Another example of special consideration was the student whose main concern was finding a comfortable place to read. He was provided with a pair of floor pillows and was allowed to camp out with his humor book and his pillows in the area under a large table. A clip-on reading light completed his personal accommodations.

When every student had made a selection of reading material, the independent reading project began. Students read for at least 30 minutes daily for 3 days. They were also allowed to read their project books when they had finished other assigned class work and were waiting for the next assignment to begin.

The students were observed to be very engrossed in their reading. Even students who had been described by the teacher as "disengaged," "reluctant readers," or "disruptive" seemed to enjoy the reading time. Many students begged for more reading time when the 30 minutes were up. Students were discussing books and sharing.

On the 4th day, students held a "bookseller's convention." Each student presented his reading material to the class, describing the title, author, genre, things he had learned from the reading, what he had liked about the book, and why he thought other readers would like it, too. Each presenter answered questions from the audience. Students in the audience had a note card to write down the names of books from the presentations that they might like to read.

After the presentations were finished, the students completed a portion of the original survey again as a post-test (see Appendix C). Comparison of pre- and post-test Item C, "This is the reason I chose the last book that I read," showed that high interest in the subject matter remained a major factor, but that the book sharing activity had encouraged many students to make a book choice based on the recommendations of peers (see Figure 3).

Reason for Book Choice	#students Pre-test	#students Post-test
Teacher said it was good	5	1
My friend liked it	0	8
High prize points	0	0
Interesting subject	10	7
Interesting info on cover	5	4
Short-- I could read quickly	0	0
Author I like	1	1
Required reading	0	0
Other: 1. Award 2. Genre	1	1
TOTAL	22	22

Figure 3. Item C, pre-test and post-test.

Comparison of the pre- and post-test Item D, "This is how I feel about independent reading time," showed a definite increase in positive feelings about reading (see Figure 4). The number of students selecting *"I really enjoy free reading time"* nearly doubled, moving from 11 to 20. The group that gave this response on the post-test included the single student who had checked *"I do not like free reading time"* on the initial survey.

Feelings about Free RT	Pre-test	Post-test	% Change
I really enjoy Free RT	11	20	81.8%
I prefer other class activities	10	2	-80%
I do not like Free RT	1	0	-100%

Figure 4. Item D, pre-test and post-test.

Students filled out a final evaluation on the independent reading and book-sharing project (see Figure 5). The opinions that appeared most often in the informal comment section of the evaluation were that they had enjoyed the project, and wished that they had more time for independent reading and more books from which to choose. High interest subject matter and genre remained determining factors in choosing books, but 2l out of 22 students also indicated that they would now use peer recommendations to help them choose books, as well.

Students listened to an explanation of how the Accelerated Reader program will work, including a description of the awarding of prize points for reading books and completing quizzes on those books. Answers to a question about the Accelerated Reader prize system on the final evaluation form indicated that the majority of students would like to receive prize points for books they had already chosen to read, but that the prize points alone would not be a major incentive for choosing a book.

1. Did listening to your classmates talk about books they are reading give you some ideas about books you would like to read yourself?

	# of students
a. Yes	21
b. No	1

2. Top two ways of finding a book to read:

a. It looks interesting	15
b. My friend or classmate liked it	14

3. Would you read more books if you could earn prize points for each book read?

a. Yes, I would read anything if I could earn prize points	5
b. I would like to earn prize points for books I was interested in anyway	9
c. No, I don't really care about prize points	6

Figure 5. Final evaluation summary.

Students wrote informal comments about the independent reading project on the final evaluation form:

It was good. I'd like to read with a partner again.

I liked it when students shared their books with each other. I enjoyed having an interesting book to read.

I like independent reading, but like all things it has its ups and downs. The majority of it is fun.

I think it is good because it helps us pull up our reading grades.

I think reading is fun and I like hearing about what others are reading.

> Of course it was great. I liked it that (the researcher) brought so many books.
>
> I had a lot of books to choose from and they were great books. Next time I'd like to have a reading partner.
>
> Free reading time is good now but I didn't like it in the past how they used to do it.
>
> I like hearing about other people's books and how they liked it because it gave me a (sic) idea about what to read next.
>
> What I like about the independent reading time is that you have an opportunity to read without it being noisy.
>
> I like to have a sports book.
>
> I'd like to start a book club, where three or four friends all read the same book and talk about it.

Several students were interested in forming book clubs as the next step in the project. The natural gregariousness of the fifth-grade age group makes book clubs a good choice.

Other ideas for the future that came up on the evaluation form were having more opportunities for partner reading and having bean bags, rockers, floor pillows, and other comfortable places to read. These recommendations from the students, themselves, are worthy of pursuing.

The control group, Class B, consisted of eight students from the other fifth-grade class. They also took the original reading survey, but did not participate in the interventions (independent reading and book-sharing). The results of their surveys were very similar to those of Class A. Six of the eight chose books according to their interest level in the subject matter. Five said they enjoyed reading, two said they preferred other activities, and one said he did not like reading. They were not experienced with peer-sharing, but were very interested in the intervention activities going on next door, and wanted to participate. That was impossible, at this time, because of their status as a control group. However, if the following recommendations are

implemented, the teacher of the control group may learn about the book-sharing through professional development and the control group students may have an opportunity to participate.

Conclusions and Recommendations

Conclusions based on both formal and informal observations and assessments of the independent reading and book sharing project include the following:

1. High-interest reading material is the biggest incentive for student reading.
2. Peer-sharing is a strong secondary incentive for student reading.
3. Although students will enjoy the competition and prize awards of the Accelerated Reader program, prizes alone will not initially be the primary motivator toward reading.
4. Other factors that will contribute to increased student engagement in independent reading are greater number of books to choose from, comfortable places to read, and the option to partner-read.

Based on the information emerging from the study, it is recommended that the design of the independent reading and book-sharing activity be maintained and continued. Sharing reading with teachers and peers is one of the four literacy strategies identified in the literature review required for successful integration of the Accelerated Reader program into literacy instruction. It is recommended that all four strategies be maintained. It is further recommended that the Accelerated Reader program be used to support, not replace, the best practices in literacy instruction already in use: reading aloud, sustained silent reading time, and guided reading with level books. This is the consensus of the participating grade level teachers, the media specialist, and the other professionals on the literacy team. They agree that the range of books to be included in the Accelerated Reader program should be as broad as possible, and they will

continue to develop a plan for acquiring more high-interest books and for including non-AR books in the AR prize and award system. AR should augment, not limit, book choice.

Professional development in the form of training on using Accelerated Reader and for directing student book-sharing activities (bookseller's convention, book clubs, reader's workshop) is highly recommended.

Possibilities for securing grant money to pursue the recommendations were discussed by the participants and the literacy team. The school administration has plans to pursue the possibility of seeking designation as a Reading First school. Some of the recommendations could possibly be included in the grant request.

The media specialist may apply for a grant from the Chapin Foundation to purchase additional books for the library. She will make sure that the kinds of books identified as "high-interest" by the students participating in this study are included. Other possible sources of funding are the Benwood Foundation, the Tennessee Reading Association, and private donors.

Technology could be used to extend the value of this study through computer compilations of student interest information and by organizing and/or publishing student book reviews and book seller's recommendations for use by fellow students. Technology could be used in the library to help students find books in the genres and subjects that interest them. The Accelerated Reader program is already computer-based, and can be used in a variety of ways for record keeping and assessments.

The most important recommendation to emerge from this study is to be aware of the wide range of interests, preferences, and needs of individual students in the area of literacy. This diversity should be explored and noted, and should contribute to the teacher's toolbox for designing effective differentiated instruction for every child. These individual reading

preferences should be used along with skills assessment and knowledge of learning styles and multiple intelligences. Every student can become an enthusiastic reader when presented with opportunities to read materials in their areas of interest.

The Researcher is exploring possibilities for future research on encouragement of reluctant readers through high-interest and individualized independent reading. Future research might also be directed toward the special literacy needs of boys.

The reading project brought success to one student, in particular. The boy mentioned above who "couldn't find a comfortable place to read" had been labeled as a non-motivated, reluctant reader, despite his status as having been assessed as gifted, because of his disengagement from the class, his lack of interest in school activities, and his behavior problems. He had recently refused to take his standardized writing test and therefore ended up in the "deficient" range. His enjoyment of his "reading hideout" under the table, and his curiosity about the intriguing books in the reading project, improved his behavior, inspired him to read and share several books, and motivated him to participate again and try his best on the new round of standardized tests. Additional research may uncover ways to reach other boys through high-interest reading.

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http://www.guysread.com/

Appendix A

Teacher Questionnaire: Accelerated Reader (AR) and Literacy Instruction

1. How big a part will AR play in your literacy instruction?

   O Major
   O Supplemental only
   O Minimal

2. Will AR points figure into students' reading grades?

   O Biggest determining factor
   O Part of the whole picture
   O Not considered

3. Will you be given an AR point goal for your class?

   O Yes
   O No

4. Will students have individual point goals?

   O Yes
   O No

5. If yes, how do you suggest individual point goals be determined?

   O By the administration O By the Media Specialist
   O By me
   O By the student, in consultation with me
   O Independently by the student

6. How much independence will students have for taking AR computer tests?

   O Complete independence
   O Independent, but I periodically monitor and discuss books with them
   O I supervise all AR testing

7. How often do you visit the library as a class?

   O Once a week
   O Occasionally
   O Seldom

8. Is your school library an "open library?"

   O Yes
   O No

9. Do you have a classroom library?

   O Yes
   O No

10. If yes, will the books be labeled for AR?

    O Yes
    O No

11. How often do you read aloud to the class?

    O Daily
    O Several times a week
    O Seldom

12. How long are average read-aloud sessions?

    O 10-15 minutes
    O 20 minutes
    O More than 20 minutes

13. My class has Sustained Silent Reading Time (SSRT):

    O Daily
    O Weekly
    O Seldom

14. Duration of SSRT:

    O 10 minutes
    O 15 minutes
    O 20 minutes
    O More than 20 minutes

15. During SSRT, what do you do?

    O Grade papers, catch up
    O Read my own book
    O 'float' and make sure students are reading

16. Texts for SSRT will be:

    O AR only
    O Free student choice

17. Students have an opportunity to share thoughts about outside reading:

    O Daily
    O Often
    O Seldom

18. I recommend books to students and help them choose books:

    O Often
    O Occasionally
    O Seldom

19. My students have other reading comprehension assessments besides AR tests

    O Yes
    O No

20. My overall view of AR is:

    O Positive
    O I have questions
    O Negative

Comments on student attitudes toward independent reading or on Accelerated Reader:

Appendix B

Questions About Reading – Student Survey

Please answer the following questions on your feelings and opinions about reading. Read all the choices before answering each question. Unless the directions tell you differently, give only one answer for each question.

A. I like this kind of reading the best (fill in the circle beside your top choice):

1. O Regular fiction books that are mostly words
2. O Magazines
3. O Graphic novels
4. O Books with lots of pictures
5. O Newspapers, the Sports Page, etc.
6. O Comic Books
7. O Websites, instant messages, and other information online
8. O Trading Cards (for example: baseball, Pokemon, Magic, Marvel)
9. O I really don't like to read anything.

.

1O. O Something else:_____

B. I like to read about (pick your top three choices):

O Animals
O Kids my own age
O Sports
O Stories about historic times
O Adventure
O Scary stories
O Non-fiction (real-life subjects)
O Style & Beauty
O Movie stars, musicians
O How to make or do things
O Hobbies:_____
O Something else_____

O Mysteries
O Myths and legends
O Biographies of real people
O Romance and relationships
O Young people facing problems
O Science fiction, fantasy, the future
O Humor (funny books)

C. This is the main reason I chose the last book that I read:

1. O My teacher said it was a good one.
2. O My friend liked it.
3. O It was worth high prize points.
4. O I was interested in what it's about.
5. O I looked it over and checked out the cover and it looked interesting.
6. O I looked for a short book that I could read quickly.
7. O The book was written by an author that I like.
8. O I only read the books my teacher makes me read. This was one of them.
9. O Something else:_____

D. This is how I feel about independent reading time (free reading time):

1. O I really enjoy free reading time.
2. O It's o.k., but I prefer other class activities.
2. O I do not like free reading time.

E. The biggest problem with free reading time is (you may pick more than one)**:**

1. O It doesn't last long enough.
2. O It lasts too long.
3. O It's boring.
4. O I can't find anything good to read.
5. O It's too noisy because the other kids keep talking.
6. O I like it fine the way it is.
7. O I don't like to read. 8. O I can't find a comfortable place to read.
9. O. Something else:_____

Appendix C

Post-test Student Survey

C. This is the main reason I chose the last book that I read:

1. O My teacher said it was a good one.
2. O My friend liked it.
3. O It was worth high prize points.
4. O I was interested in what it's about.
5. O I looked it over and checked out the cover and it looked interesting.
6. O I looked for a short book that I could read quickly.
7. O The book was written by an author that I like.
8. O I only read the books my teacher makes me read. This was one of them.
9. O Something else:_____

D. This is how I feel about independent reading time (free reading time):

1. O I really enjoy free reading time.
2. O It's o.k., but I prefer other class activities.
3. O I do not like free reading time.

E. The biggest problem with free reading time is (you may pick more than one)**:**

1. O It doesn't last long enough.
2. O It lasts too long.
3. O It's boring.
4. O I can't find anything good to read.
5. O It's too noisy because the other kids keep talking.
6. O I like it fine the way it is.

7. O I don't like to read.

8. O I can't find a comfortable place to read.

9. O. Something else:_____

Appendix D

Final Evaluation

More Questions about Reading

1. Did listening to your classmates talk about books they are reading give you some ideas about books you might like to read yourself?

   O No, I'm not interested in what others are reading
   O Yes, I only read books recommended by others
   O Yes, I heard about a book that I might like to read myself:

   Title_____

2. Write a #1 and a #2 beside your top two ways of finding a book to read:

   _____My teacher said it was good
   _____My friend or classmate liked it
   _____Any book will do if it is short
   _____It is written by an author I like
   _____Book is part of a good series
   _____It is worth high prize points
   _____It looks interesting

3. Would you read more books if you could earn prize points for each book read?

   O Yes, I would read anything if I could earn prize points.
   O I would like to earn prize points for reading books I was interested in anyway.
   O No, I don't really care about prize points.

4. The best PLACE to read at school would be:

   O sitting at my desk
   O sitting at a table
   O sitting in a bean bag
   O lying on the floor
   O sitting in a comfortable chair
   O sitting in a rocker
   O curled up in a pile of pillows

5. These things would make independent reading time more enjoyable:

O more time
O less time
O quieter/less talking
O more books to choose
O reading with a partner
O a comfortable place
O listening to music
O talking about my book with friends
O Something else:_____

_____

_____

_____

6. This is what I think about the Independent Reading Project: (Put your thoughts on the back.)

Incorporating Visual Arts into the Language Arts Classroom

Jordan Bischell

EDUC 590, Spring 2006

The University of Tennessee at Chattanooga

The Institutional Review Board of the University of Tennessee Chattanooga
(FWA00004149) has approved this research project 06-031

Introduction to the Problem

Why Combine Language Arts and Visual Arts?

It seems that, in many ways, today's educators are teaching at an exciting time in terms of academic developments and methodologies. All it takes is a simple observation of the everyday happenings at nearly any school across America; there seems to be a certain contagious excitement among teachers and administrators, and an infectious desire to make a difference in the lives of students. All over the nation, new ideas and teaching philosophies are making their way into the classroom. New and innovative approaches to instruction and classroom management are being tested and refined. The concepts of diversity and inclusion are on the mind of every educator and the lips of every administrator, and multiple intelligences are being addressed in the classroom, more now than ever. In many ways, this is a very exhilarating time to be a teacher.

Along with these exciting developments, though, many troublesome paradoxes have recently arisen. Among those problems of greatest concern is the fact that, while teaching across the curriculum has become a major priority for many schools, a great number of schools seem to be limiting their curricula by cutting out programs such as art and music. Maybe it has simply become easier to teach across the curriculum because the curriculum seems to be shrinking. Whatever the case may be, the growing exclusion of art programs has caused a cry of lament to rise from teachers, parents, and students.

What can be done about this deplorable situation, though? How can educators continue to develop students' skills through essential "core" curricula while still exposing them to the arts? For many schools, the answer has been to incorporate language arts and

visual arts into one class, and, in many ways, the current research shows that this marriage of language arts and visual arts has increased student learning in both areas more than by teaching each subject separately. The purpose of this research project is measure the results of incorporating artistic coursework into the English classroom. The goal is to discover whether the simple act of adding artistic elements to the average student assignment provides enough incentive to raise the level of student participation, work quality, and neatness, and to discover whether or not it is a productive learning tool.

Review of Literature

The amount of literature available on the idea of combining the subjects of literature and art is extensive, to say the least. Numerous studies have been conducted, and a great many articles have been written, in an attempt to show the favorable results of merging the two content areas in the classroom; For the most part, the results have, indeed, been positive. Primarily, the literature available on this topic is of a subjective nature. Most of the articles consulted in this project were written in narrative form, and relied on the individual researcher to draw conclusions based on observations and qualitative data. This doesn't mean that this research should be discounted, though. When dealing with what are perhaps two of the most subjective content areas, one would be hard-pressed to find a great deal of data that is based solely on concrete, quantitative data.

When one first begins research the topic of joining literature and art in the classroom by collecting articles, pull-out quotes, such as these, will probably be the first thing that one notices: "The most rewarding part of this activity was listening to the students articulate the themes and settings that were reflected in their paintings" (Eisenkraft, 1999), and "An English-Art curriculum yields student gains" (Murata, 1997). The proponents of the marriage of language

arts and visual arts are not shy about sharing their views and opinions, and, as stated earlier, the research conducted on the subject shows overwhelming support.

One may ask, though, how these proponents are implementing this duo of curricula in the classroom, and if it seems to work for every age and grade level. First, it is important to note that research indicates that there are two major ways in which art is being incorporated into the English curriculum. The first is by a full-on, combined course in which the two subjects are studied together consistently. The second is by periodically combining artwork into the English classroom. Also, research indicates that both of these techniques are being implemented at nearly every grade level.

The results of an entire curriculum dedicated to the combination of language arts and visual arts, according to researchers, seem to be nothing but positive. One such teacher who has implemented this type of curriculum is Murata (1997). She states, “We worked to develop a combined curriculum that would link verbal with visual and experiential knowledge.” As far as her results and conclusions on the experience are concerned, she says that “a more connected approach between subject matters, especially if the approach is experiential in nature, will reach more students effectively.” Throughout her 1997 article she provides examples of student comments. One notable example is this one:

> The cool stuff was being able to relate English to art, being able to express some of the stuff you were thinking about not only in words but also in pictures. That was pretty interesting….Maybe that’s why in that class I was doing so good because I was able to relate my pictures to what we’re learning.

Murata is not the only one to have had success with this approach. Buckelew (2003) used a similar type of curriculum and stated, “Although students continued to struggle with basic editing skills, there was a joy and excitement that I would never have thought possible during those first few weeks of the school year.” She goes on to say, “Throughout the year, we deepened our understanding of the connections between other art forms and our writing, and I continued creating integrated art and writing activities. The rewards were great.” Gilles, Andre, Dye, and Pfannestiel (1998) had similar results. Andre is quoted as saying, “When we use the fine arts to further experience the literature, we find children have more ways to connect, so they have more possibilities, more potential, for the connections they need in order to learn.” Later in the article, the researchers state that “children explore, enhance, and express their learning through the arts.”

Research suggests that this method has been so successful that it has begun to branch out to post-secondary and ESL education. Numerous articles are available that show these tactics to be successful on the college level. Two notable examples are from Ziolkowski (1999) and Lawrence (1999). Ziolkowski has used this approach by studying works of art and art reviews in his English course at Pratt Institute in Brooklyn, and Lawrence has employed similar tactics at another liberal arts college. Both of these instructors have pointed out the fact that the combination of these two subjects is not just beneficial for young learners.

As far as ESL is concerned, Seely and Hurwitz (1983) discovered years ago that the blend of language arts and visual arts can be beneficial for a variety of learners. They state, “Much more important than the art products was the less tangible but nonetheless significant carry-over of creativity and self assurance from one medium of communication to the other.” They go on to say, “As students’ sense of themselves as productive, inventive, active individuals

increased through their art projects, they brought their related attitudes of risk-taking, spontaneity, and self-confidence to their language development."

Other researchers who studied combining language arts and visual arts in a setting in which the marriage only happened periodically, or under certain circumstances, also gained positive results. In her study in which she conducted an art-literature connection project, Rief (1999) stated, "Art is one way of communing with the words and ideas found in literature, with the audience and with other people, particularly with students." She went on to say, "We need to give our students opportunities to say things they have 'no words for.' Not only do our students develop their imaginations when they interpret books artistically, but they enter into the lives of the characters and the evens with a more critical, yet humane, stance."

This sentiment is shared by Arnold (1997), a researcher who developed a project combining art and literature in which students would study the work of Maya Angelou. She says, "There are many ways to bring the beauty of words into the classroom. The goal is to create energy for the creative process and allow each child his or her own vision and interpretation. The poetry and the visual expression should be partners in this sharing and exchange of values and meanings." McKay and Kendrick (2001), who were also involved in a short term study, had this to say: "The drawings…illustrate a growing sense of self as an independent reader and writer."

Although there may be literature available to combat the results gained by these professionals, one would be hard-pressed to uncover it. As a whole, the articles reviewed before implementing this project predicted success and provided a hopeful expectation that this research project would soon be joining the ranks of the ones discussed here.

Data Collection and Results

Data Collection

Respondents

The individuals involved in this study were eighth grade language arts students from an urban middle school. As far as demographics are concerned, the school is comprised of approximately 92% minority students. Academically, the scores of the students fall all across the board, and it cannot be definitively stated that the average student at this school is of any certain academic skill level. A total of 39 students were involved in the collection of data for this project, approximately 22 females and 17 males. Data collection lasted over a period of 6 weeks, equaling 30 school days of actual data collection.

Methodologies

One of the main goals of this research project was to collect measurable data about the effects of assigning coursework of a more artistic nature in a language arts classroom. The areas of participation, work quality, and neatness were major concerns, and were the areas that were measured using numerical data. In order to try to make data collection and the comparison of data as objective as possible, a baseline average score for participation, work quality, and neatness were obtained from student work before the actual implementation of the project. It is this baseline average that is compared to the data collected during the implementation of the project.

In order to obtain this baseline average, and to measure the areas of participation, work quality, and neatness, a rubric was designed which would be applied to each class work and homework assignment that was collected from students. This rubric is located in Appendix A.

In discussing the rubric, it is important to note that the first category of participation was applied to the entirety of work collected for each assignment and the categories of quality and neatness were applied to each piece of student work, and then averaged. Along with the rubric, an assignment data sheet was also used for the collection of data (see Appendix B). The assignment data sheet detailed the specific number of students who were assigned the work, how many participated, and how many completed the assignment. The class averages for participation, quality, and neatness were also recorded on the data sheet for each assignment, as well as notes about student enthusiasm or resistance.

The actual implementation of this project took place over the course of 7 school days and involved the collection of data from a total of 10 assignments. The implementation of the project took place during a short unit on the basics of poetry and poetic elements. The content and subject matter of this unit were appropriate for the student population and grade level. In putting the research project into operation, it was a goal to not dramatically change the type of assignments with which the students were familiar, since the major goal of this project was simply to discover if adding artistic elements to student coursework created enough incentive to raise participation, quality, and neatness. Therefore, the types of assignments that students would be completing during the application of this unit and research project would not be totally foreign to them; they would simply have more artistic elements incorporated into them. The major activities that the class had been involved in through the course of the semester were various types of worksheets, simple writing assignments such as journaling and summarizing, and writing five-point essays. These types of assignments remained consistent throughout the poetry unit (with the addition of writing some poetry), but each assignment asked for a sketch,

drawing, or some type of artistic representation of the worked being done or material being studied.

Each time that an assignment was collected, every individual assignment would be reviewed and assessed according to the rubric. When all assignments had been reviewed and assessed, the average scores for participation, quality, and neatness would be calculated. Also, a data analysis sheet would be completed that contained information such as the specific number of students who participated in and completed the assignment.

It is important to note that a pre-test and post-test were used to collect data for this research project (see Appendix C and Appendix D). The main purpose of the pre-test and post-test was to discover whether or not students were able to learn the material that was presented to them, regardless of their participation, work quality, or neatness. If the study proved that student participation, work quality, and neatness actually decreased, it would still be important to analyze whether or not the actual teaching strategies were effective.

Results

Overall, the results from the data collection of this project were unfavorable, and did not support the hypothesis that more artistic coursework would increase student participation, work quality, and neatness. The averages of the baseline data and unit implementation data are displayed below. The chart shows that student participation, work quality, and neatness all decreased during the poetry unit in which the artistic coursework was added to the curriculum. Participation fell by 30%, work quality by 9%, and neatness by 23% (see Figure 1).

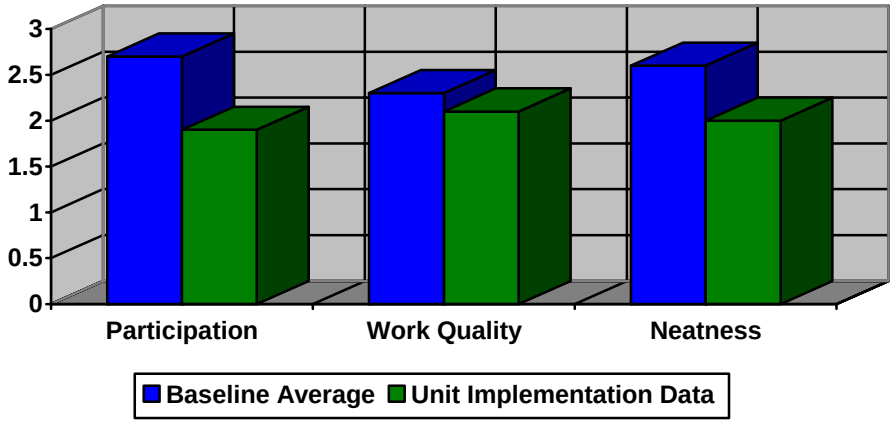

Figure 1. Baseline and unit implementation averages.

Along with the comparison of these data averages, it was easy to see, by examining the notes in narrative form on the data collection sheets, that student enthusiasm dropped on assignments in which the artistic elements were added and rose when they were absent. Also, student resistance was higher and the amount of vocal opposition was greater. Narrative notes on the data collection sheets continually showed students asking why they were being forced to draw or sketch, and complaining that they did not want, or did not know how, to complete the artistic portion of each assignment. Also, many students occasionally refused to engage in any artistic coursework in the classroom, stating that they felt it simply was not necessary.

Much of the work completed by students that incorporated the artistic elements resulted in work that looked like the examples below (see Figure 2). This assignment required students to create an original haiku and illustrate it. Students were informed that the assignment would be for a grade and were supplied with markers, colored pencils, crayons, and blank paper on which to work. Students were encouraged to present their best work on the assignment and be creative. Most students, however, chose to use their own notebook paper and refused to color or add much flair or creativity to their minimally artistic representations. It became obvious that the

assignment was not one that students took pride in, and this, unfortunately, continued to be the trend until the conclusion of the unit.

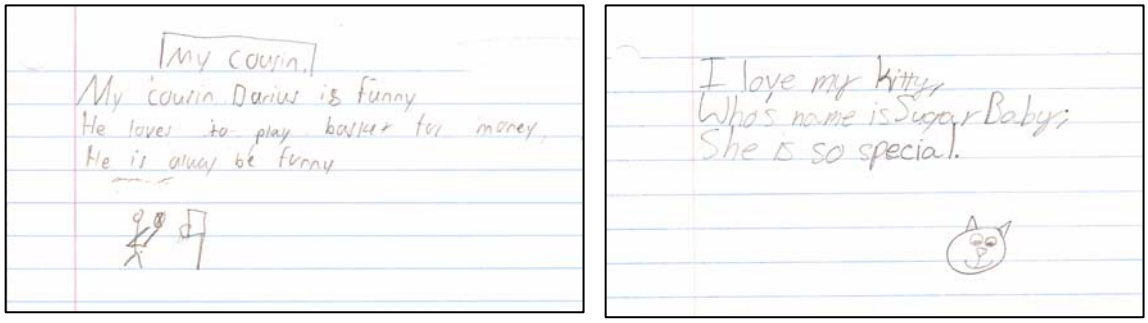

Figure 2. Student work examples.

The data collected from the pre-test and post-test did show, however, that the vast majority of students retained much of the information that was presented to them during the implementation of the unit. Figure 3 displays the results of the pre-test.

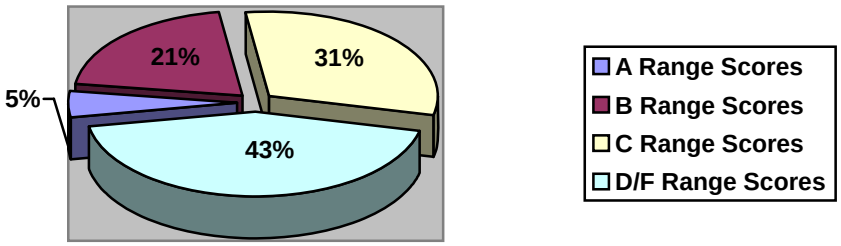

Figure 3. Breakdown of pre-test grades by percentages.

The vast majority of students did perform poorly on the pre-test, but this was not discouraging since much of the information on the test had not been presented to students in the classroom in the past. The results from the post-test and the comparison of pre-test to post-test data, are presented in figures 4 and 5. The charts show that, even though several students still performed disappointingly on the post-test, many students were able to increase their scores by at

least one letter grade. A closer examination of student scores would show that nearly 100% did improve their scores to some degree, even if they were not able to jump to the next letter grade.

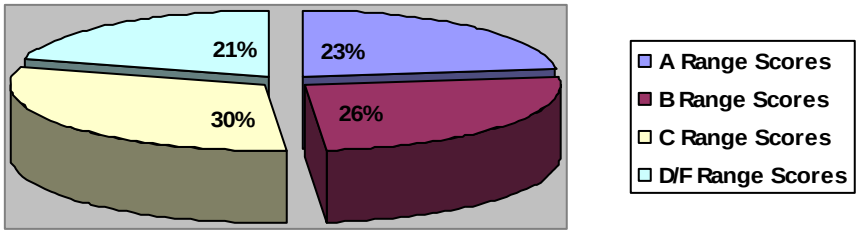

Figure 4. Breakdown of post-test by percentages.

The results of comparing the pre-test and post-test data clearly show that students were able to effectively learn the material even if student participation, work quality, and neatness may have decreased during the implementation of the unit. This shows that these elements related to in-class work and homework to do not necessarily reflect student knowledge and comprehension.

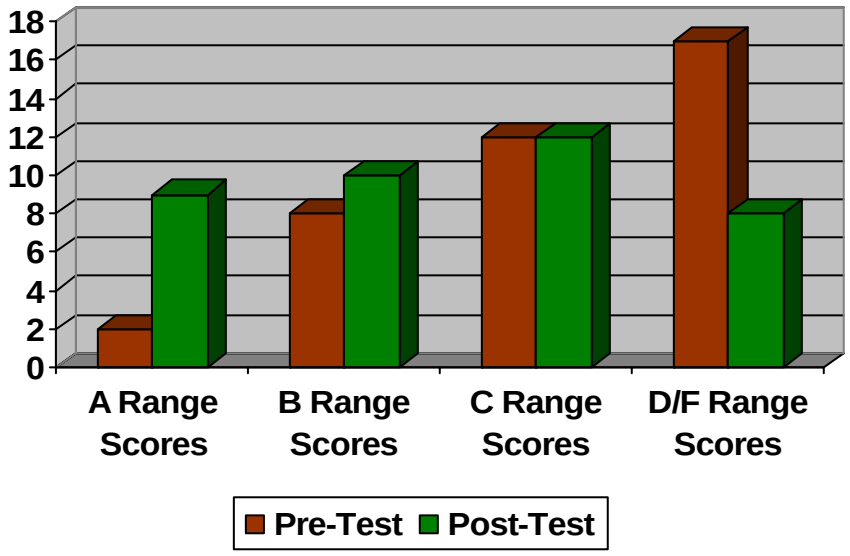

Figure 5. Comparison of pre-test and post-test scores.

Conclusions and Recommendations

Conclusions

From merely examining the data collected from this research project, one might conclude that artistic coursework really has no place in the English classroom. A conclusion of this type, based on this research, may not be so well-founded, though, when one considers certain factors involved that have not been previously discussed. First, it is important to note the classroom setting in which this project was implemented, and how that may have affected the data. The classroom setting for this project was one in which grades were not highly emphasized, and students were keenly aware of this fact. In many ways, this student population (like many other middle school student populations) simply performed enough class work to "get by." This created a problem because many students did not see the artistic elements of their coursework as something that should be taken seriously. Many students assumed that their regular coursework was not being evaluated for a grade, and, consequently, did not think that these assignments that included drawing and sketching would be graded, either. This actually led to a decrease in initiative for students to perform to the best of their abilities on these assignments.

Another factor to consider is the age group with which this experiment was conducted. Many people may assume that middle school students would thoroughly enjoy an assignment that gave them the opportunity to be creative and artistic. This, however, is not always the case. Developmentally speaking, these students are at an age of extreme social awareness. Many times, students at this age will try as hard as possible not to stand out from their peers, in any way, in order to avoid possible embarrassment, ridicule, negative attention, or even positive attention. Students may have felt that engaging in this artistic coursework would have exposed too much of themselves to their peers, and could have opened them up to attention they did not

want. Socially speaking, these students may feel safer engaging in activities such as worksheets and writing assignments that are handed in, instead of work that may differentiate them so much from their peers.

Lastly, it is important to consider that this project was implemented by a student teacher in the classroom. This does not mean that the unit or project was executed without sufficient skill, but, simply that the students' reaction to the new teacher may have contributed to the results of the project. Many times, students will intentionally test a student teacher by refusing to take the coursework given by him/her seriously. Also, this project was put into action very near the end of the school year when students were well-settled in to their usual routine and were well-familiar with their language arts classroom teacher. Middle school students often have some difficulties adapting to change, and a new teacher, combined with a new type of coursework, may have caused some anxiety in the classroom that affected the project results.

It is important to point out, though, that a few students were extremely excited about the artistic coursework. There were students who truly seemed to enjoy the assignments and put obvious effort into each piece of art they produced. These individuals were simply overshadowed by the dissatisfied majority. Keeping all of these factors in mind, it may be difficult to use the data collected in this experiment for either arguments for or against incorporating artistic coursework into the English curriculum. Either way, though, conducting the pre-test and post-test were beneficial in this instance in order to show that, even though student participation, work quality, and neatness decreased during the experiment, the students were still able to learn the material.

Recommendations

The first recommendation for this project, in order to reach more conclusive results, would be to either implement this project over a longer period of time, or spread out the artistic coursework over the course of the semester, so that the students do not encounter it all at one time and are not thrust into such a sudden change in curriculum. It would probably be more beneficial to implement this project in a more fluid and consistent manner, and one that would create more of a balance of coursework for the students involved.

Secondly, it would probably be more beneficial if the subject matter was something that students were excited about studying. In the particular instance of this project, students were leaving a unit on civil rights (which they had been enthusiastic about) to enter a unit on poetry (which they were not excited about). Many students simply were not enthusiastic about studying poetry, in general, and this may have had a major effect on the outcome of this project.

Finally, the last recommendation for the improvement of this project is to incorporate artistic elements more fully into the assignments instead of "adding" them to the assignments. The goal of this project was to see if simply "adding" artistic elements to an assignment created an incentive. Perhaps, in order for the incentive to be present, the artistic portion of the assignment needs to be a larger part of the whole. This may help students see the artwork as more valid and more closely-related to the material being studied, and may help them realize how their artistic representations could be of benefit to them.

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Appendix A

Partcipation, Work Quality, and Neatness Rubric

CATEGORY	**Score 3**	**Score 2**	**Score 1**	**Score 0**
Participation	At least 90% of students participated in and completed this assignment.	At least 75% of students participated in and completed this assignment.	Less than 75% of students participated in or completed this assignment.	The assignment is incomplete or was not submitted.
Work Quality	This piece of student work is of superior quality. There is an obvious effort to complete the assignment in accordance with the given parameters and an obvious effort to achieve excellence is displayed by composition of the assignment	This piece of student work is of average quality. The student has appeared to make an effort to abide by the assignment parameters and do a satisfactory job on the assignment, but the level of effort displayed conveys that the student simply completed ths assignment more in an effort to avoid negative consequences than to strive for excellence.	The effort shown in this piece of student work is extremely minimal. The composition shows an obvious lack of time and effort. The work is mere regurgitation or is nonsensical and shows no concern for assignment parameters or any goal of excellence.	The assignment is incomplete or was not submitted.
Neatness	This piece of student work is extremely neat and orderly. An obvious effort has been made to submit a piece of work that is free from rips, tears, wrinkles, smudges, or frayed efforts. Also, handwriting is neat and the format of the paper is effective and pleasing to the eye.	This piece of student work displays an average amount of pride in appearance. The work relatively neat and orderly but may contain some elements that would detract from the quality of the work such as messy handwriting or slightly disheveled paper.	This piece of student work clearly shows a lack of concern for presentation, whatsoever. The handwriting is extremely messy or is illegible and the paper is in total or near-total disarray.	The assignment was incomplete or was not submitted.

Appendix B

Assignment Data Sheet

Date _____

Assignment _____

Total # of Students _____

Total # Participating _____

Total # of Complete Assignments _____

Total # of Incomplete Assignments _____

Total # Exceeding Parameters _____

Neatness Average _____

Quality Average _____

Student Resistance Notes:

Student Enthusiasm Notes:

Appendix C

Poetry Pre-Test

Part I – For each definition below, please write the correct poetry vocabulary from the word bank below.

1. A comparison of two unlike things using the words *like* or *as*.

2. A comparison in which a word or phrase that usually designates one thing is used to designate another.

3. A Japanese lyric verse form having three unrhymed lines of five, seven, and five syllables.

4. Rhymed on the terminal or last syllables of the verses.

5. A 14-line verse form usually having one of several conventional rhyme schemes.

6. A lyric poem usually marked by exaltation of feeling and style, varying length of line, and complexity of stanza forms.

7. Verse whose meter is irregular in some respect or whose rhythm is not metrical.

8. The pattern or flow of sound created by the arrangement of stressed and unstressed syllables.

9. To make clear the meaning of; explain.

10. The repetition of the same sounds or of the same kinds of sounds at the beginning of words or in stressed syllables, as in “on scrolls of silver snowy sentences” (Hart Crane).

11. One of the divisions of a poem, composed of two or more lines usually characterized by a common pattern of meter, rhyme, and number of lines.

12. Of or relating to a category of poetry that expresses subjective thoughts and feelings, often in a songlike style or form.

WORD BANK (Part I)

Alliteration	Haiku	End Rhyme
Stanza	Metaphor	Lyric
Explication	Ode	Rhythm
Simile	Sonnet	Free Verse

Part II – True or False. Please write the word *True* or *False* next to each statement.

1. _____ All good poetry must rhyme.
2. _____ To be a poem a work must be of a particular length.
3. _____ Poetry is limited only to words on a page.
4. _____ Any work of art could be considered poetic depending on how you look at it.
5. _____ To be considered a true poem, a work must be about a particularly meaningful or important subject.
6. _____ There may be many ways to interpret a single poem.
7. _____ Whatever the poet says about his/her own poem is always correct.
8. _____ For a poem to be meaningful, it must have lots of metaphors, similes, and alliteration.
9. _____ A short haiku can be just as meaningful as a long ode or a romantic sonnet.
10. _____ My poems can't be as good as those written by a professional poet.

Appendix D

Poetry Post-Test

Part I – For each definition below, please write the correct poetry vocabulary from the word bank below.

1. A comparison of two unlike things using the words *like* or *as*.

2. A comparison in which a word or phrase that usually designates one thing is used to designate another.

3. A Japanese lyric verse form having three unrhymed lines of five, seven, and five syllables.

4. Rhymed on the terminal or last syllables of the verses.

5. A 14-line verse form usually having one of several conventional rhyme schemes.

6. A lyric poem usually marked by exaltation of feeling and style, varying length of line, and complexity of stanza forms.

7. Verse whose meter is irregular in some respect or whose rhythm is not metrical.

8. The pattern or flow of sound created by the arrangement of stressed and unstressed syllables.

9. To make clear the meaning of; explain.

10. The repetition of the same sounds or of the same kinds of sounds at the beginning of words or in stressed syllables, as in “on scrolls of silver snowy sentences” (Hart Crane).

11. One of the divisions of a poem, composed of two or more lines usually characterized by a common pattern of meter, rhyme, and number of lines.

12. Of or relating to a category of poetry that expresses subjective thoughts and feelings, often in a songlike style or form.

WORD BANK (Part I)

Alliteration

Stanza

Explication

Simile

Haiku

Metaphor

Ode

Sonnet

End Rhyme

Lyric

Rhythm

Free Verse

Part II – True or False. Please write the word *True* or *False* next to each statement.

11. _____ All good poetry must rhyme.

12. _____ To be a poem a work must be of a particular length.

13. _____ Poetry is limited only to words on a page.

14. _____ Any work of art could be considered poetic depending on how you look at it.

15. _____ To be considered a true poem, a work must be about a particularly meaningful or important subject.

16. _____ There may be many ways to interpret a single poem.

17. _____ Whatever the poet says about his/her own poem is always correct.

18. _____ For a poem to be meaningful, it must have lots of metaphors, similes, and alliteration.

19. _____ A short haiku can be just as meaningful as a long ode or a romantic sonnet.

20. _____ My poems can’t be as good as those written by a professional poet.

Improving Confidence Levels Through Grouping Methods

Susan M. Bothman

Education 590, Spring 2006

The University of Tennessee at Chattanooga

The Institutional Review Board of the University of Tennessee at Chattanooga (FWA004149) has approved this research project 06-057.

Introduction to the Problem

The purpose of this project is to change the classroom dynamic that drives interest for female students and describe the effects of such a curriculum on both genders. This project will also attempt to address the theory that those students who sit toward the front of the classroom show higher achievement. If female students consistently score lower in the areas of mathematics, could their placement in the classroom be the reason? Grouping students together within the classroom and arranging the groups such that some groups are closer to the directed teaching than others will attempt to unravel this mystery and address the theory of classroom design as an effective teaching strategy.

Review of Literature

There have been numerous studies on the effects of gender on mathematics and science achievement of middle- to high-school-age students. The cause of this research has come in the form of gender differences in science and mathematics courses. Fan, Chen, and Matsumoto, (1988) states that many findings reveal that male students have greater visual-spatial ability than females. Studies have also shown that females are less comfortable in a mathematics classroom and that lower self-concept result in lower achievement. All of these findings come to the same conclusion, that, for several reasons, female students show lower achievement in mathematics' and science-related courses.

The first significant pattern of gender differences is found in visual-spatial ability. Male students generally have better visual-spatial skills while female students have a higher verbal self-concept. According to Fan Chen, and Matsumoto,(1988, p. 230), this "disparity in ability" can explain why male students show higher achievement in mathematics. Most research has shown consistently that these differences in ability correlate to differences in gender; however, it

has not shown how it correlates to mathematics achievement. Tartre and Fennema (1990) came to the conclusion that spatial orientation skills correlated positively with achievement in mathematics for female students but not for male students. Upon examining the correlations for the affective variables, Tartre and Fennema (1990) concluded that the variables for mathematics achievement showed a compelling pattern of positive correlation between mathematics achievement and confidence for both sexes.

Spatial orientation, according to the study, "Achievement and Gender" (Tartre & Fennema, 1990), was positively correlated with verbal skills for females but not for males. These two variables are likely to be developed together. Early research is showing that one can use the level of spatial orientation to help identify gender differences in these mathematics-related areas, but there are not enough consistent gender differences to predict achievement of students.

Another significant pattern of gender differences comes in the form of attitude or confidence within the classroom. Muller's study (1998, p. 337) gathered data from 8th and 10th grade students in the 1988 National Education Longitudinal Study (NELS), which found that the "10th grade girls were less likely to report liking mathematics classes." Muller agrees with other studies, that trends in interest level and differences in self-concept emerge more pronounced in middle school, and according to Tartre and Fennema (1988), these gender differences are related to students becoming adolescents. Results from Horvath, Beaudin, and Wright (1992, p. 107) suggest that female students "need more validation than males" to maintain interest in economics, a mathematics-related field. Several studies have found that confidence in one's ability to learn mathematics is positively correlated with mathematics achievement. Researchers have also generally found that male students have more positive attitudes toward mathematics and seem to more actively participate in mathematics-related courses. The research of Fan et al.

(1988, p. 230) has shown that males perceive that mathematics and related courses are a “male domain.” These trends were more pronounced in middle school than high school students. Tartre and Fennema (1990, p. 213) agree that the only consistent pattern of gender differences for all of their measures was for stereotyping mathematics as “male domain.”

A study conducted by Greene, DeBacker, Ravindran, and Krows (1999, p. 424) came to similar results, that gender differences in competence are consistent with females and that this “competence belief” is found to predict performance. Results showed that female students who chose that particular course (elective) rather than a required course typically showed higher achievement levels.

Early research has identified gender differences in mathematics achievement through disparity in visual-spatial skills versus verbal skills and differences in attitudes within the classroom environment. These differences all seem more pronounced in younger students and may have some correlation with adolescent maturity. The next step in research is to act on these findings and develop a classroom environment that acknowledges these gender differences. This will provide more precise findings about how to overcome these visual-spatial differences and if it is possible to change the attitudes towards mathematics and related courses after it has been developed.

Data Collection and Results

Data Collection

Measurement

This action research project will be measuring achievement and confidence. These measurements will be used together to determine the differences in gender in the field of mathematics.

Achievement is operationally defined as proven ability through testing. Achievement will be measured using weekly quizzes and unit tests. The teacher will construct these quizzes. The unit tests will be standard tests given with the course material, altered slightly to fit the class schedule. The question of validity arises here, as the exams are not proven. However, these exams will be given regularly to average the grades of the students.

Confidence is operationally defined as one's ability to perform in relation to those around them. Confidence will be measured through observation and survey (using a likert scale). The survey will ask questions that measure the students' feelings about how well they think they will do in the course. The teacher will be observing the class daily and keeping a journal. The journal will be structured to gather specific information every day, such as which students actively participated in discussions, which students appeared uninterested, and absenteeism. The journal will also have a section for notes, which do not necessarily fit the guidelines or structure of the journal. The journal will be summarized at the end of the week and students will be assigned points based on participation.

Intervention

The intervention will be by way of classroom organization. The class will be divided into five small groups. Once grouped, the members of the group will remain the same throughout the duration of the semester to reduce the number of variables that could affect the dynamics. Two groups will be all female, two groups will be all male, and the last group will be gender-mixed. These groups will be placed around the classroom with one of each of the same gender groups toward the front and the other toward the back, and the mixed-gender group in the middle.

The other class will be the control group. It will consist of students with a similar gender mix and grade average. The control group will be allowed to group themselves and sit wherever

they choose within the classroom environment. This grouping will be the placebo, as the control group will think that they are part of the study. They will be given the same quizzes and the tests. They will also be given the surveys throughout the duration of the class.

All of the students will be given a preliminary survey with questions about confidence level on the first day of class. Quizzes will be given every Friday over material covered, with the exception of weeks in which there is a unit test. The teacher will keep an observation journal on a daily basis and summarize findings on Friday afternoon after quizzes or tests have been graded. Observations will include class participation, status of class groups and small groups, and relationships between these variables and achievement. A survey will be given midway through the course to measure any changes in interest level or confidence, and given again at the end of the class.

After week one, the teacher will evaluate each student based on the quiz grade, class participation, and any other observations made throughout the week. Each group will be given a score based on the mean score of the students within the group. After week two, the teacher will average the scores again to see if there is any improvement. This will continue throughout the duration of the class. The teacher should not try to compare any of the groups within the class or the control group during the course of the study, as this may bias the results through the idea of the "self-fulfilling prophecy."

Procedure

The design of this intervention is intended to determine achievement and confidence. One way to do this effectively with such a small number of students is to isolate these items through grouping. One class will serve as the intervention group and another will serve as the control group. The control group will have similar characteristics as the intervention group and will be

grouped according to student preference. The small groups within the control group will then be allowed to sit wherever they choose within the classroom.

Internal validity should be addressed to ensure that this intervention, as designed, communicates an explainable outcome. First, the control group will eliminate any affects associated with history, as both groups will be exposed to the same issues. Next, the control group will allow the intervention to take into account any maturation that may occur during the study as both groups will be given the same surveys and test material. Neither class will know which group is the intervention group and which group is the control group. Both classes will experience teacher observation and both classes will be grouped. Most questions of internal validity arise because of instrumentation. The teacher will create the surveys and testing items. Statistical regression will be small because several measurements are being used, several times throughout the intervention.

Selection may also cause a small amount of internal validity problems because the groups will be pulled from an opportunity sample rather than a truly random sample. Experimental mortality has little effect with a control group in place.

Results

The setting for this study was an urban public school in Hamilton County, Tennessee. The students were in a seventh grade integrated pre-algebra and world geography class. The school data from TCAP testing showed that 93.2% of seventh graders were proficient or advanced in 2004 and 95.9% were proficient or advanced in 2005. These results were obtained from the school's record of student performance on TCAP tests for the entire seventh grade. This study focused only on two classes during the spring 2006 school semester.

The surveys that were distributed to students did not accurately represent the student body as not all of the results were included in my study. Results of only those students who assented to participate, and who also had parental consent, were included in the study. The survey instrument can be found in Appendix A. Of those results that were included, all students responded positively in reference to confidence level. The journal kept also showed active class participation by nearly all students in the classroom and extremely low absenteeism. The final survey also showed that, of those results included, 100% of students responded “some” or “very much” when asked, “How much do you enjoy mathematics?”

The control group consisted of 27 students, from which 15 students’ results were gathered. The intervention group consisted of 25 students, from which 16 students’ results were gathered. Figure 1 shows the comparison of the percentage of improvement on the post-test, from the original pre-test results, for both classes. There is slight improvement for the front and back groups. The front groups are not an accurate representation of a true comparison because the data for the intervention group only included one female student’s results out of four possible students.

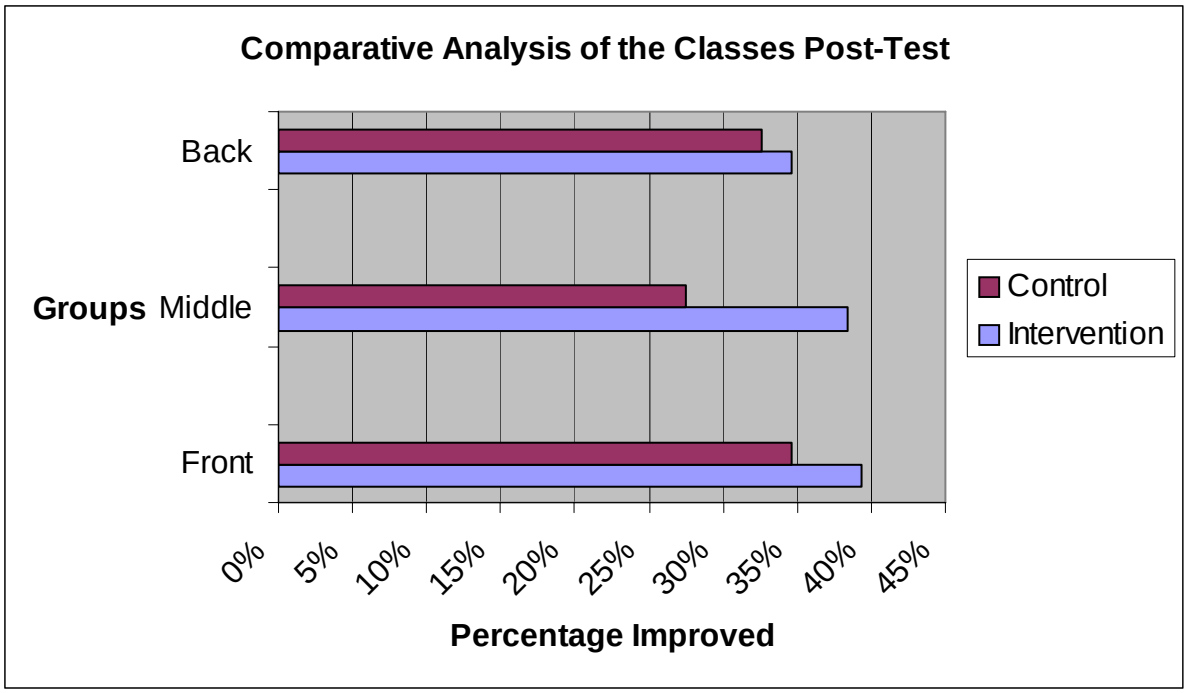

Figure 1. Comparative analysis of the classes.

A comparison was made of the grade point averages of the students before and after the intervention to see if there was any correlation between their improvement on the post-test and their overall achievement in the class. Figure 2 shows the comparative analysis of the students' averages in the class before and after the intervention took place. The mean improvement for the intervention class was 6.25% versus the mean improvement for the control group of 6.07%. There is a slight improvement for the intervention group; however, compared to the overall improvement in both classes, I can see no correlation between the intervention and the increased achievement of the classes. A difference of 0.18% in improvement between the groups does not provide conclusive evidence that the intervention was successful.

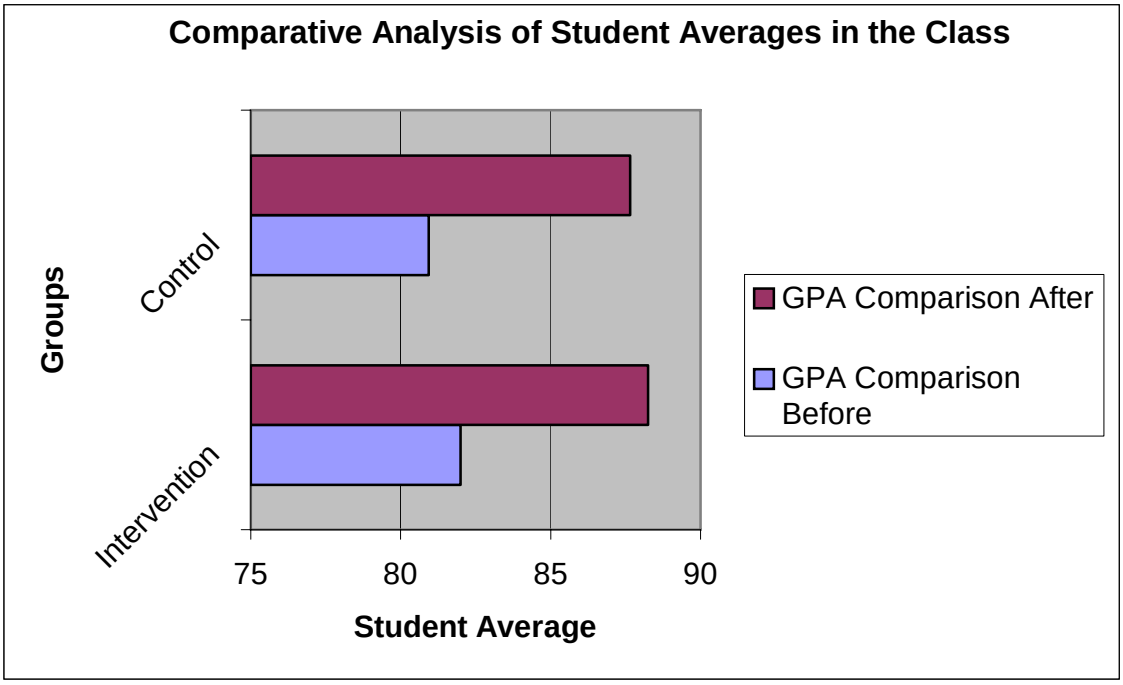

Figure 2. Comparative analysis of student averages in the class.

Finally, I compared the groups within the intervention class to see if there was any relationship between improvement on the test and groups placement within the classroom. Figure 3 shows the comparison of achievement for the front, middle, and back groups in the classroom. There is an 11% variation in the percentage improvement on the post-test between the two female groups. The female group in the front showed the most improvement on the post-test. The male group in the front improved less than the male group in the back, but still better than the female group in the back, which showed the least improvement. The evidence here is suspect. I only had one student's results to include for the female group in the front, so any anomaly could have resulted in skewed test results.

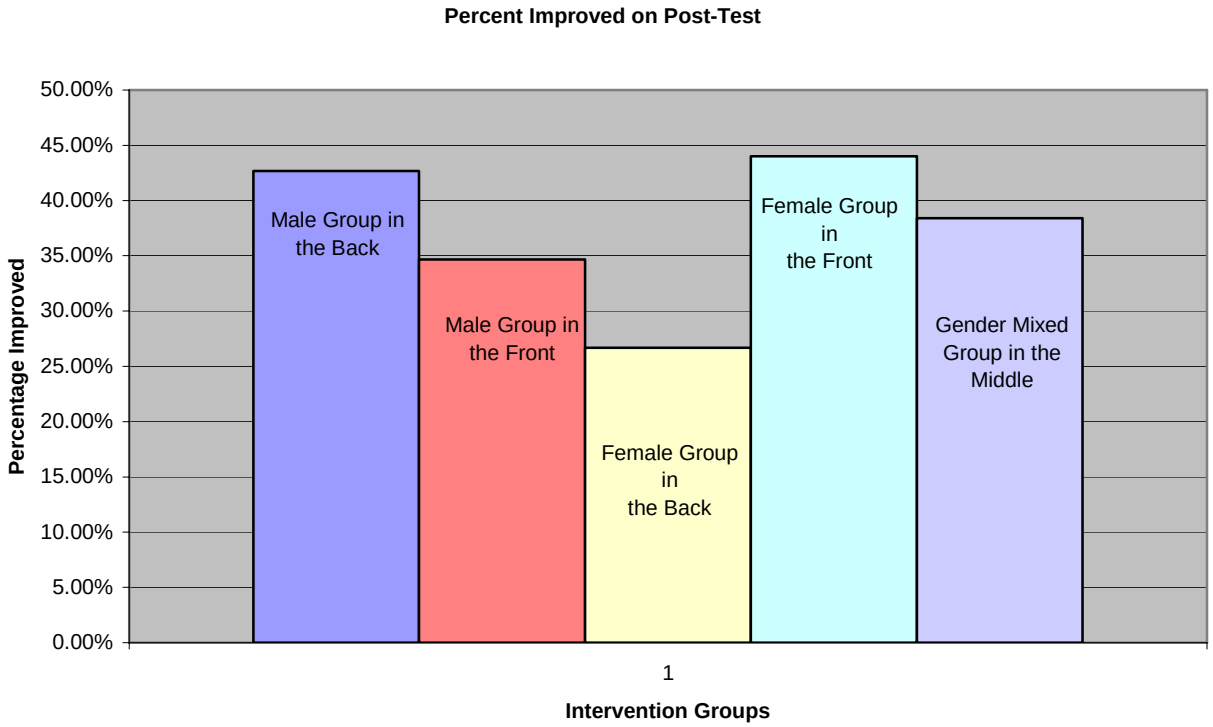

Figure 3. Percent that the intervention groups improved from the pre-test to the post-test.

Conclusions and Recommendations

Conclusions

Although much research supports the concept that female achievement is correlated to confidence level, I could not gather enough data to conclude that confidence level is related to placement in the classroom. The class curriculum itself was a challenge, as the class was an integrated mathematics and world geography class. The cooperating teacher with whom I was working was implementing a new mastery learning strategy for her classroom. This requires that students score 76% or higher on a graded assessment before they move on to the next material. Alternative assessments are used to help students master the material after re-teaching has occurred. This additional variable may have invalidated my results. Also, over the course of my study, students were preparing for TCAP tests. The administration puts a great deal of emphasis

on preparing for these tests and I had to alter my unit in order to incorporate additional preparation material for the students.

The results of this study are inconclusive. There were entirely too many variables during the course of the study to obtain accurate results. The school already had high achievement rates in the area of mathematics. Comparing data over a longer time period, with a student body pulled from more than one school, may yield more accurate results.

Recommendations

I would recommend that this study be conducted again to attempt to ascertain if there is a true correlation between classroom design and student achievement. There is grant money available to conduct this research. The Tennessee Higher Education Commission provides yearly grants called “Improving Teacher Quality Grants” to implement workshops for teachers in the areas of mathematics. The local university supports grant initiatives and acknowledges the need for increased teacher awareness and ongoing research in high needs areas like mathematics. Professional development could be a means by which to explore teacher theories on classroom design in order to develop a more thorough intervention. Technology could also be utilized to explore the correlation between one-on-one interaction with an instructor and confidence levels in mathematics. Technology could also be utilized to further examine the visual-spatial and verbal ability of females and males in the area of mathematics. Software, like Geometer’s Sketchpad, could be integrated into the curriculum to examine student performance.

The perception exists that those students who sit at the front show higher achievement that those in the back and research concludes that males consistently score higher than females in the area of mathematics. While I did not conclude this decisively, I can still see a further need to

explore this theory, as my results did yield some interesting relationships between placement and achievement.

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Appendix A

Survey

Please circle the best answer.

1. How much do you enjoy school?

Very Much Some Don't Care Little Very Little

2. How much do you enjoy United States History?

Very Much Some Don't Care Little Very Little

2. How much do you enjoy World History?

Very Much Some Don't Care Little Very Little

3. How much do you enjoy Government?

Very Much Some Don't Care Little Very Little

4. How much do you enjoy Mathematics?

Very Much Some Don't Care Little Very Little

5. What grade do you expect to get in this class?

A B C D F

Motivated to Motivate

Lorri Bragg

Education 590, Spring 2006

The University of Tennessee at Chattanooga

The Institutional Review Board of the University of Tennessee at Chattanooga (FWA004149) has approved this research project 06-029.

Purpose

The purpose of this study is to determine the most effective methods of motivating students in the classroom. The study was developed to compare the motivational strategies teachers feel are most effective and then compare those strategies to the motivational strategies most used in the classroom. As a result of the comparison, the results should determine if teachers are frequently using the most effective motivational strategies or mostly using motivational strategies that are not as effective.

Introduction

As long as there has been classroom education, the question on how to motivate students has been a major concern of teachers. Motivation is considered to be one of the biggest issues in today's classroom, but also considered to be one of the biggest issues inadequately addressed (Ames, 1990). The term "motivation" has many definitions but the precise nature of motivation has not been clearly defined (Pintrich & Schunk, 1996). Motivation can be defined as one's willingness to engage in an activity. Educational motivation can be defined as a student's willingness to participate in his or her own education and learning process. Students have many reasons why they are motivated and/or unmotivated to participate in the activities of the learning process. Some students want to learn for the sake of learning and are motivated by something inside of them; this is what is described as intrinsic motivation. Other students need some outside force to help them work; this is what is described as extrinsic motivation. Motivation can also be described as either task involved, learning oriented, and mastery focused, versus ego involved, performance oriented, and ability focused (Ames & Archer, 1988).

The goal of the teacher needs to be to move students from the more extrinsically motivated to the intrinsically motivated, which involves motivation that is task involved, learning

oriented, and mastery focused. One way teachers can accomplish this task is by emphasizing effort, creating hope, building relationships, expressing enthusiasm, and teaching the students to respect power (Mendlier, 2000). Teachers face the challenge to not only to teach the content and subject but also to teach students to love or, at least want, to learn. There are many factors that affect what motivational strategies teachers use and what they use most often. Some of the factors include, but are not limited to, class size, class makeup, resources, and teacher attitude and beliefs.

There are many other factors that influence the motivation of students. As students get older, what they base their achievement on changes from self-focus to peer focus (Fives & Manning, 2005). Students' beliefs about themselves and their abilities also influence their motivational levels. How teachers interact with students will also play a role in student motivation. Research suggests that, if teachers have high expectations, students will achieve, students will have a tendency to be more motivated, and students will achieve more often in the classroom (Ames, 1990; Brewster & Fager, 2000; Fives & Manning, 2005). School practices can also influence the motivation of students by how they emphasize academic achievement, model good communication, respect diversity, support and respect teachers, and involve parents (Brewster & Fager, 2000).

There are many strategies that are used in the classroom to motivate students. In this study, the issues of which strategies are most effective and which strategies are used most frequently will be addressed.

Hypothesis

Based on education, classroom observation, and casual conversation with current teachers, this writer believes that *the most frequently used motivational strategies are not the*

most effective in building life-long learners. This writer has observed motivational strategies being used in the classroom and has witnessed ones that are mostly extrinsic; they are not the strategies that most teachers say they would like to use.

Goal

The goal of this study is to determine if hypothesis is correct and, if so, find ways to implement motivational strategies in the classroom that are effective in motivating students to become intrinsically motivated and life-long learners.

Review of Literature

The literature reviewed for this study provided a lot of identical information regarding what motivation is, strategies used to motivate students, how teachers and peers influence motivation, and the differences in intrinsic and extrinsic motivation. It also provided an extensive list of the strategies used for motivation in the classroom. To some degree, it addressed the issue of effectiveness, but not specific to individual strategies. Very few studies addressed the issue of frequency of use in the classroom, and none addressed the comparison of effectiveness versus frequency of use. One other commonality of all the research is that one of the most frequently stated concerns of teachers, especially pre-service and first-year teachers, is motivation (Guest, & Hilton, 1996).

The literature on motivation did provide an extensive list of the strategies and methods used to motivate students. The one strategy that all the literature reviewed suggested as a motivational tool was using goal setting. It was suggested that the goal be specific to each student, be challenging yet achievable, and be for small sections of work instead of large units. One author (O'Keefe, B., 1996) suggested that, instead of teachers being able to motivate, she

provides a classroom environment that includes the following six strategies to build motivation within the student:

(a) providing an atmosphere where students believe they have control over their success or failure,
(b) making students feel as they belong and are worthy,
(c) encouraging and promoting self-efficacy,
(d) setting challenging yet achievable goals,
(e) giving students choices in the learning process, and
(f) building a rapport and relationships with the students.

Another article (Brewster & Fager, 2000). listed the following as some of the positive ways to foster motivation:

(a) sparing use of extrinsic motivation techniques,
(b) setting clear and consistent classroom expectation,
(c) make students feel warm and welcome,
(d) respond to questions positively and praise good work,
(e) break large assignment into smaller ones,
(f) promote mastery learning by giving opportunities to correct mistakes, and
(g) evaluate students work as soon as possible.

As the article progressed, the authors(Brewster, & Fager, 2000) identified several other motivational strategies including:

(a) making the lessons interesting and building curiosity;
(b) allowing students to make connections to other students;
(c) allowing the students to have some autonomy;
(d) helping the students develop a sense of competency;
(e) allowing students to have some creativity, originality, and choice in assignments;
(f) connecting lessons to real life situations;
(g) setting challenging yet achievable goals;
(h) allowing students to share knowledge with each other; and
(i) Providing seating arrangements that are conducive to the lesson.

The other articles provided many of the same strategies; the only additional strategies not duplicated in the literature were the following (Salend, 2005):

(a) teacher being enthusiastic about subject and delivering the topic,
(b) having active lessons,
(c) varying instructional styles,
(d) displaying students work.

There are other motivational strategies that are used in the classroom but were not discussed in this literature.

Another commonality of the literature is that teachers play an important role in motivating students. As students progress through school, peers become more of a factor in motivation (Fives & Manning, 2005). When teachers have high expectation for the class, then students in the class have increased motivation and usually improved performance (Ames, 1990; Brewster, & Fager, 2000; and Fives, & Manning, 2005). Because of the role teachers play in the classroom, not only as an educator, but as a role model for many other aspects of students' lives, it is important that they model and use strategies that encourage motivation, not only at the academic level, but on a social level. It is important that teachers exhibit high motivation for teaching, the content or subject they are teaching, and, generally, how they address issues and problems that arise. For teachers to have a classroom with mastery orientation with regard to content and motivation, the teacher needs to do the following (Pintrich, & Schunk, 1996):

1. Foster in students a preference for challenging, rather than easy, work.
2. Develop in students an incentive to satisfy interest and curiosity, rather than to please the teachers and obtain good grades.
3. Encourage independent mastery attempts, rather than depending on the teachers.
4. Have students exercise independent judgment, rather than relying on the teacher's judgment.
5. Get students to apply internal criteria for success and failure, rather than external criteria.

One of the books suggested that teachers cannot motivate students directly (Raffini, 1993). In general, most of the literature supports that teachers are imperative in helping students become and/or remain motivated, as well as moving to, or returning to, being intrinsically motivated.

Since the ways a student is motivated changes throughout a students, progress in school from a more internal focus to a more a peer focus, it is necessary for middle and high school teachers to help a student learn that comparing oneself to others is not as effective as comparing

oneself to one's own previous work (Guest, & Hilton, 1996). As students get older, they are more likely not to engage in activities if they feel or think they cannot be successful, and, if they do try and fail, the magnitude of the effect of the failure is greater the older they get (Brewster, & Fager, 2000). It is also not uncommon for older students to discourage others not to participate so they do not have to compare themselves to those students (Brewster, & Fager, 2000). One study (Mendlier, 2000), suggested that being unmotivated in a learned behavior can be unlearned if positive motivational strategies are used. The literature suggests that the reason students move from a more intrinsic motivation to extrinsic motivation is because peers have such an influence and become the main factor in how students see themselves.

There is a direct relationship between behavior and motivation (Mendlier, 2000). Students' behavior is motivated by their beliefs. One study suggests that teachers can increase positive motivation by helping students learn positive beliefs. It is important that students believe they are capable of, and have the tools necessary for, success (Mendlier, 2000). Most of the literature does support the need for basic needs to be met, such as belonging, competency, and students feeling they have some control, before additional motivation can take place (Mendlier, 2000). Along with these basic needs, most of the literature also supports: that, for increased intrinsic motivation, students need to have some positive self-worth and some degree of autonomy (Raffini, 1993). Teachers can help students meet the basic needs and have self-esteem and autonomy. It is important that teachers understand that, before additional learning and/or motivation can occur, students need this foundation of beliefs and feelings. Once the foundation is in place, teachers can increase motivation by providing opportunities to learn, pressing students to think, supporting students' attempts to understand, and evaluating student

learning (Burden, 2000). Teachers can assess students' motivation by observing students' choice of tasks, effort, persistence, and achievement (Pintrich & Schunk, 1996).

The literature did not break down the motivational strategies into specific ones or give information on the effectiveness of individual strategies. Because each article and passage identified goal setting as an effective motivational strategy, it would suggest this is most likely one of the most effective techniques. When the articles listed the motivational strategies, it was determined that these were all positive methods for promoting motivation. Some of the research suggests that extrinsic motivation, such as rewards, incentives, and praise, are effective as rapid methods of building motivation (Guest, & Hilton, 1996). What most of the articles did suggest is that, even though these extrinsic motivators work well for the short term, if they are used too frequently, they have negative effects on long term motivation by deceasing interest, and if there are no rewards, then there is no work (Ames, 1990; Brewster, & Fager, 2000; Guest, & Hilton, 1996). One study suggests that excessive use of extrinsic motivation will lead students to depend on teachers most of the time and undermine any or all intrinsic motivation (Burden, 2000).

Some of the positive motivational strategies that were discussed more frequently in the literature were (a) Helping students to know and understand they have some control over their success and failure (Guest, & Hilton, 1996); (b) Helping students to make the grade important to them for personal reasons (Guest, & Hilton, 1996); (c) Helping students to build their self-worth and self-efficacy (Ames, 1990 and O'Keefe, 1996); and (d) Focusing on the quality of time spent on an activity rather than on the quantity of time (Ames, 1990).

Also, the literature shared some concerns on some of the motivational techniques that appear to be positive methods. Praise can be an effective technique for increasing motivation, but, if it is given when the student has done well on a task that is to easy for student, the validity of the

praise is often questioned (Ames, 1990). Also, rewards or positive reinforcement can be effective tools for motivation, but, if given just for effort and not for production, it can be discouraging to students by implying they have good effort but are not capable of doing the task (Guest, & Hilton, 1996).

The aspect of how frequently certain motivational techniques were used in the classroom was not addressed by many of the articles or passages. One article conducted a survey based on a scenario and asked pre-service and current teachers what motivational strategies they would have used. Based on the data they received, the method that was selected most by the survey participants was consulting with parents (Fives, & Manning, 2005). The following are the next choices in order of number of participants that choose this type of motivational strategy (Fives, & Manning, 2005): (a) making the lesson more interesting, (b) helping the student to connect the task to something he/she values, (c) giving the student some choice in how to learn the lesson and complete the assignments, and rewards.

The literature suggests that the most frequently used methods of motivation are extrinsically based, even though teachers know they will not be beneficial in the long term. It does not give the reasons for this. Based on the literature that was reviewed, it was not possible to determine which strategies are used most frequently in the classroom.

The conclusion for most of the literature suggests that motivation is a large aspect of teaching. Students believe their reason for success is based on the following factors, and in this order (Ames, & Archer, 1988): (a) ability, (b) effort, (c) strategy, (d) task, and (e) luck. Students, most of the time, do not see motivation as an aspect of their learning process. It appears, based on the literature, that there are ways to improve motivation in students and, in turn, improve achievement. It is important that teachers set high expectations, help students set

challenging, yet achievable, goals, and use extrinsic motivators sparingly. The literature, on occasion, had different concepts on motivation, how it comes about, teacher role in motivation, students' role in motivation, and best strategies to increase motivation.

Data Collection and Results

To determine the most effective and most frequently used motivational strategies, a survey was developed based on this writer's education, classroom observations, literature review, and general conversation with current teachers. The survey was developed using a 4-point Likert scale to rate the effectiveness of 28 motivational strategies:

1. No effectiveness
2. Slightly effective
3. Moderately effective
4. Very effective

A 4-point Likert scale was used to rate the frequency of the same two motivational strategies:

1. Never used
2. Occasionally used
3. Moderately used
4. Frequently used

Participants were also given an opportunity to write in and rate motivational strategies that were not listed in the survey. The participants were asked to list the top three effective motivational strategies, and the top three most frequently used motivational strategies. Finally, the participants were given the opportunity to write any comments and suggestions.

Permission of the principals of two local secondary schools was received to conduct the survey. The surveys were distributed to teachers at a local high school and middle school. The teachers range from first-year teachers, to teachers having over 26 years of teaching experience and a wide range of content areas. Approximately 150 surveys were distributed to the schools and 57 surveys were returned. Five of the surveys were not used in the analysis due to being

severely incomplete on both the effectiveness and frequency. Fifty-two surveys were used to analyze the effectiveness of motivational strategies. Only 45 surveys were used to analyze frequency of use. The decrease of seven is the result of some teachers not reading the directions and believing the pages were duplicates.

Data Analysis

The data from the survey that was collected via the Likert scale was analyzed quantitatively using the formula to find the mean. The effectiveness and frequency of use were quantitatively analyzed by finding the percentage of teachers that rated each strategy based on effectiveness and frequency of use. The surveys were also divided into five different groups based on years of teaching experience. See Figure 1 for the division numbers.

GROUP	**EFFECTIVENESS NUMBER OF PARTICIPANTS**	**FREQUENCY OF USE NUMBER OF PARTICIPANTS**
1 – 3 years of teaching experience	8	7
4 – 10 years of teaching experience	10	9
11 – 15 years of teaching experience	13	10
16 – 25 years of teaching experience	9	8
26 an over years of teaching experience	12	11

Figure 1. Grouping of teachers by years of experience.

Based on the data analysis and interpretation, the following charts provide some of the results of the survey. In figure 2, the highlighted numbers in the fifth column are questions that had some responses left blank, and the number of blanks is recorded in highlight. The average

score is based on the number of responses (not counting blanks as part of the calculation). There were 52 returns for effectiveness and 45 returns for frequency.

Likert Scale

Effectiveness rating. The first chart provides the data results of the teachers' opinions of the most effective motivational strategies. The rating count is the number of responses each strategy received, based on the Likert scale. The rating totals are calculated by the number of responses multiplied by the Likert scale score. The total score is calculated by summing the rating totals for each strategy. The average is calculated by taking the total score divided by the number of responses. Based on the average, the strategies were ranked with the highest average being the strategy teachers felt is the most effective.

Frequency rating. Figure 3 provides the data result of the teachers' opinions of the most frequently used motivational strategies. The data is laid out and calculated the same way as the effectiveness rating chart.

Effectiveness versus frequency**.** Figure 4 provides the strategies listed in order of ranking for both effectiveness and frequency. This chart is from the responses on the Likert scale part of the survey. They are posted side by side so comparisons can easily be made.

Personal Choice

Top 3 for effectiveness and frequency. Figure 5 provides the data of the survey participants for their personal choices for the top three effective motivational strategies and most frequently used motivational strategies. Every strategy that was listed as first, second, or third choice was counted. For every first choice, the strategy was given 3 points, for every second choice, 2 points were given, and for every third choice, only 1 point was given. The totals were calculated and the strategies were than ranked based on total points.

Effectiveness versus frequency – choice. Figure 6 provides the strategies listed in order of ranking for both effectiveness and frequency. This chart is from the responses of the personal choice part of the survey. They are posted side by side so comparisons can easily be made.

EFFECTIVENESS	Rating Count					Rating Total							
	1	2	3	4	Left Blank	1	2	3	4	Score	Average	Ranking
1. Energetic instruction (teacher very enthusiastic about content area and teaching).	0	1	10	41		0	2	30	164	196	3.77	**1st**
2. Use of visual aids (overheads, posters, videos, etc.).	1	3	21	26	1	1	6	63	104	174	3.41	**7th**
3. Incentives (privileges).	2	14	24	11	1	2	28	72	44	146	2.86	**15th**
4. Positive feedback / praise / approval / affirmations.	0	3	18	30		0	6	54	120	180	3.46	**6th**
5. Rewards (concrete, tangible items).	2	17	19	12	1	2	34	57	48	141	2.76	**17th**
6. Sharing self with students (telling stories about self and own mistakes).	0	15	20	16	1	0	30	60	64	154	3.02	**12th**
7. Negative feedback and criticism.	23	23	5	1		23	46	15	4	88	1.69	**24th**
8. Providing opportunities for students to feel needed (grading, set up, attendance).	2	11	23	13	3	2	22	69	52	145	2.96	**23rd**
9. Making lessons fun.	1	3	12	35	1	1	6	36	140	183	3.59	**4th**
10. Threatening consequences.	21	29	1	1		21	58	3	4	86	1.60	**25th**
11. Allowing students some control (choice of assignments and or topics).	2	14	14	10	2	2	28	42	40	112	2.24	**21st**
12. Ensuring assignments/tasks are challenging (high but realistic expectations).	0	5	28	19		0	10	15	76	101	1.94	**22nd**
13. Arousing curiosity.	0	0	21	31		0	0	0	124	124	2.38	**20th**
14. Well organized classrooms and lessons.	0	1	13	28		0	2	39	112	153	2.94	**13th**
15. Seating arrangements.	0	13	25	14		0	26	75	56	157	3.02	**12th**
16. Active lessons and actions in the classroom.	0	1	19	31	1	0	2	57	124	183	3.59	**4th**
17. Varying teaching strategies and activities.	0	1	17	34		0	2	51	136	189	3.63	**3rd**
18. Building rapport with students (showing interest in, out of school information).	1	0	10	41		1	0	30	164	195	3.75	**2nd**
19. Competition.	1	10	34	7		1	20	102	28	151	2.90	**14th**
20. Emphasizing grades.	3	24	22	2	1	3	48	66	8	125	2.45	**19th**
21. Reviewing learning objectives (students understand expectation and use of examples).	1	8	25	17	1	1	16	75	68	160	3.14	**10th**
22. Making lessons relevant to real life.	0	3	18	31		0	6	54	124	184	3.54	**5th**
23. Involving students in lessons (feedback from student and integration of feedback).	0	7	24	20	1	0	14	72	80	166	3.25	**9th**
24. Developing sense of competency in students (self-esteem).	0	3	26	23		0	6	78	92	176	3.38	**8th**
25. Allowing students to make connections to others.	0	7	31	14		0	14	93	56	163	3.13	**11th**
26. Allowing students some degree of autonomy.	0	10	31	11		0	20	93	44	157	3.02	**12th**
27. Providing opportunities for originality and self-expression.	0	7	25	19	1	0	14	75	56	145	2.84	**16th**
28. Parent involvement.	1	9	14	28		1	18	42	72	133	2.56	**18th**

Figure 2. Rating of effectiveness of motivational strategie

FREQUENCY	1	2	3	4	Left Blank	1	2	3	4		Total Score		Average	Ranking
1. Energetic instruction (teacher very enthusiastic about content area and teaching).	0	0	14	31		0	0	42	124		166		3.69	**1st**
2. Use of visual aids (overheads, posters, videos, etc.).	0	9	11	25		0	18	33	44		95		2.11	**24th**
3. Incentives (privileges).	1	19	20	5		1	38	60	20		119		2.64	**18th**
4. Positive feedback / praise / approval / affirmations.	0	1	14	30		0	2	42	120		164		3.64	**2nd**
5. Rewards (concrete, tangible items).	7	18	14	6		7	36	42	24		109		2.42	**22nd**
6. Sharing self with students (telling stories about self and own mistakes).	1	15	12	17		1	30	36	68		135		3.00	**11th**
7. Negative feedback and criticism.	10	28	5	1	1	10	56	15	4		85		1.93	**25th**
8. Providing opportunities for students to feel needed (grading, set up, attendance).	1	17	18	7	2	1	34	54	28		117		2.72	**14th**
9. Making lessons fun.	1	6	27	11		1	12	21	44		78		1.73	**27th**
10. Threatening consequences.	16	24	5	0		16	48	15	0		79		1.75	**26th**
11. Allowing students some control (choice of assignments and or topics).	4	23	13	5		4	46	39	15		104		2.31	**23rd**
12. Ensuring assignments/tasks are challenging (high but realistic expectations).	0	3	27	15		0	6	81	60		147		3.27	**6th**
13. Arousing curiosity.	1	10	23	11		1	20	69	44		134		2.98	**12th**
14. Well organized classrooms and lessons.	0	7	11	27		0	14	33	108		155		3.44	**4th**
15. Seating arrangements.	0	14	13	18		0	28	39	72		139		3.09	**8th**
16. Active lessons and actions in the classroom.	0	2	21	21	1	0	4	63	84		151		3.43	**5th**
17. Varying teaching strategies and activities.	0	1	21	23		0	2	63	92		157		3.49	**3rd**
18. Building rapport with students (showing interest in, out of school information).	0	3	15	26		0	6	45	104		155		3.44	**4th**
19. Competition.	3	21	16	4	1	3	42	48	16		109		2.48	**21st**
20. Emphasizing grades.	0	23	19	3		0	46	57	12		115		2.56	**20th**
21. Reviewing learning objectives (students understand expectation and use of examples).	0	9	18	18		0	18	54	44		116		2.58	**19th**
22. Making lessons relevant to real life.	0	5	23	17		0	10	69	41		120		2.66	**17th**
23. Involving students in lessons (feedback from student and integration of feedback).	1	11	18	14	1	1	22	54	56		133		3.02	**10th**
24. Developing sense of competency in students (self-esteem).	0	4	24	17		0	8	72	41		121		2.69	**15th**
25. Allowing students to make connections to others.	0	9	24	11	1	0	18	72	44		134		3.05	**9th**
26. Allowing students some degree of autonomy.	0	15	23	6	1	0	30	69	24		123		2.80	**13th**
27. Providing opportunities for originality and self-expression.	0	10	20	15		0	20	60	60		140		3.11	**7th**
28. Parent involvement.	3	20	11	11		3	40	33	44		120		2.67	**16th**

Figure 3. Frequency of use of motivational strategies.

EFFECTIVENESS RATING	
1st	1. Energetic instruction
2nd	18. Building rapport with students
3rd	17. Varying teaching strategies and activities.
4th	9. Making lessons fun.
4th	16. Active lessons and actions in the classroom.
5th	22. Making lessons relevant to real life.
6th	4. Positive feedback / praise / approval / affirmations.
7th	2. Use of visual aids
8th	24. Developing sense of competency in students
9th	23. Involving students in lessons
10th	21. Reviewing learning objectives
11th	25. Allowing students to make connections to others.
12th	6. Sharing self with students
12th	15. Seating arrangements.
12th	26. Allowing students some degree of autonomy.
13th	14. Well organized classrooms and lessons.
14th	19. Competition.
15th	3. Incentives (privileges).
16th	27. Providing opportunities for originality and self-expression.
17th	5. Rewards (concrete, tangible items).
18th	28. Parent involvement.
19th	20. Emphasizing grades.
20th	13. Arousing curiosity.
21st	11. Allowing students some control
22nd	12. Ensuring assignments/tasks are challenging
23rd	8. Providing opportunities for students to feel needed
24th	7. Negative feedback and criticism.
25th	10. Threatening consequences.

FREQUENCY RATING	
1st	1. Energetic instruction
2nd	4. Positive feedback / praise / approval / affirmations.
3rd	17. Varying teaching strategies and activities.
4th	14. Well organized classrooms and lessons.
4th	18. Building rapport with students.
5th	16. Active lessons and actions in the classroom.
6th	12. Ensuring assignments/tasks are challenging.
7th	27. Providing opportunities for originality and self-expression.
8th	15. Seating arrangements.
9th	25. Allowing students to make connections to others.
10th	23. Involving students in lessons.
11th	6. Sharing self with students.
12th	13. Arousing curiosity.
13th	26. Allowing students some degree of autonomy.
14th	8. Providing opportunities for students to feel needed.
15th	24. Developing sense of competency in students.
16th	28. Parent involvement.
17th	22. Making lessons relevant to real life.
18th	3. Incentives (privileges).
19th	21. Reviewing learning objectives.
20th	20. Emphasizing grades.
21st	19. Competition.
22nd	5. Rewards (concrete, tangible items).
23rd	11. Allowing students some control.
24th	2. Use of visual aids.
25th	7. Negative feedback and criticism.
26th	10. Threatening consequences.
27th	9. Making lessons fun.

Figure 4. Comparison of effectiveness and frequency rankings.

Figure 5. Selection

*These are the results of participants selecting their top 3 choices for effectiveness and frequency.
*Ranking based on total points.

	EFFECTIVENESS						FREQUENCY					
STRATEGY	**# of 1st choice 1**	**# of 2nd choice 2**	**# of 3rd choice 3**		**Total Points**	**Ranking**	**# of 1st choice 1**	**# of 2nd choice 2**	**# of 3rd choice 3**		**Total Points**	**Ranking**
1. Energetic instruction	12.5	1	3.5		41	1	6	3	0		24	4
2. Use of visual aids	4	5	0		22	18	3	1	0		5	1
3. Incentives (privileges).	0	1	0		2	2	0	0	2		2	17
4. Positive feedback / praise / approval / affirmations.	1.5	8	2		21	17	6	6	0		30	18
5. Rewards (concrete, tangible items).	2	0	1		7	4	1	0	0		3	16
6. Sharing self with students	1	0.3	1.5		4.5	14	1	2.3	2		9	14
7. Negative feedback and criticism.	0	0	0		0	16	0	0	0		1	6
8. Providing opportunities for students to feel needed	0	0	0		0	28	0	0	0		1	27
9. Making lessons fun.	0.5	1	1		3.5	22	1	1	0		5	2
10. Threatening consequences.	0	0	0		0	23	0	0	1		1	9
11. Allowing students some control	0	1.5	1		4.5	24	0	1	0		2	22
12. Ensuring assignments/tasks are challenging	0	1	1.5		3.5	5	0	0	1		1	23
13. Arousing curiosity.	0	1	0.5		2.5	27	0	0	1		1	5
14. Well organized classrooms and lessons.	0	5	6.75		16.75	6	1	3	1.75		11	3
15. Seating arrangements.	0	0	0		0	11	0	0	0		0	11
16. Active lessons and actions in the classroom.	2.5	2	4.3		14.75	9	1	3	4.3		13	19
17. Varying teaching strategies and activities.	4	4	2		22	12	2	5	4		20	24
18. Building rapport with students	4	7.3	2.5		28.75	13	4	0	8		20	10
19. Competition.	0	0	0		0	3	0	0	2		2	12
20. Emphasizing grades.	0	0	0		0	26	0	0.3	1		1	13
21. Reviewing learning objectives	0	0	0.3		0.3	21	0	0	0.3		0	20
22. Making lessons relevant to real life.	2	3.3	1		13	7	0	1.3	2		4	23
23. Involving students in lessons	3	1	1		12	8	1	0	0		3	28
24. Developing sense of competency in students	0	1	1		9	10	0	1	0.5		2	7
25. Allowing students to make connections to others.	0	0	0		0	15	0	0	0		0	8
26. Allowing students some degree of autonomy.	0	0.5	0		0.5	19	0	0	0		0	15
27. Providing opportunities for originality and self-expression.	1	0	2		5	20	2	0	0		6	25
28. Parent involvement.	3	1	3		14	25	0	1	0		0	26

RANKING	EFFECTIVENESS
1	Energetic instruction
2	Incentives (privileges).
3	Competition.
4	Rewards (concrete, tangible items).
5	Ensuring assignments/tasks are challenging
6	Well organized classrooms and lessons.
7	Making lessons relevant to real life.
8	Involving students in lessons
9	Active lessons and actions in the classroom.
10	Developing sense of competency in students
11	Seating arrangements.
12	Varying teaching strategies and activities.
13	Building rapport with students
14	Sharing self with students
15	Allowing students to make connections to others.
16	Negative feedback and criticism.
17	Positive feedback / praise / approval / affirmations.
18	Use of visual aids
19	Allowing students some degree of autonomy.
20	Providing opportunities for originality and self-expression.
21	Reviewing learning objectives
22	Making lessons fun.
23	Threatening consequences.
24	Allowing students some control
25	Parent involvement.
26	Emphasizing grades.
27	Arousing curiosity.
28	Providing opportunities for students to feel needed

RANKING	FREQUENCY
1	Use of visual aids
2	Making lessons fun.
3	Well organized classrooms and lessons.
4	Energetic instruction
5	Arousing curiosity.
6	Negative feedback and criticism.
7	Developing sense of competency in students
8	Allowing students to make connections to others.
9	Threatening consequences.
10	Building rapport with students
11	Seating arrangements.
12	Competition.
13	Emphasizing grades.
14	Sharing self with students
15	Allowing students some degree of autonomy.
16	Rewards (concrete, tangible items).
17	Incentives (privileges).
18	Positive feedback / praise / approval / affirmations.
19	Active lessons and actions in the classroom.
20	Reviewing learning objectives
22	Allowing students some control
23	Ensuring assignments/tasks are challenging
23	Making lessons relevant to real life.
24	Varying teaching strategies and activities.
25	Providing opportunities for originality and self-expression.
26	Parent involvement.
27	Providing opportunities for students to feel needed
28	Involving students in lessons

Figure 6. Comparison of effectiveness and frequency rankings from top three choices.

The following data and charts are based on the division of the participants into categories of years of teaching experience, as reported in Figure 1.

Charts

Years experience comparison of effectiveness. Figure 7 provides the data collected from the Likert scale section of the survey. It is divided into five groups, based on number of years of teaching experience. Each number of responses were multiplied by the Likert scale score (1, 2, 3, or 4). The total score is calculated by summing the rating totals for each strategy.

Experience ranking. Figure 8 provides the rank order for effectiveness, divided into five separate groups, based on number of years of teaching experience. The data is based on the Likert scale scoring.

Years experience of comparison of frequency of use. Figure 9 provides the data collected from the Likert Scale section of the survey. It is divided into five groups, based on number of years of teaching experience. Each number of responses were multiplied by the Likert scale score (1, 2 ,3, or 4). The total score is calculated by summing the rating totals for each strategy.

Experience ranking. Figure 10 provides the rank order for frequency of use, divided into five separate groups, based on number of years of teaching experience. The data is based on the Likert Scale scoring.

Figure 11 provides the results from teachers selecting the top three strategies for motivating students and which strategies they believe are the most frequently used strategies.

YEARS TEACHING EXPERIENCE	3-under				total	4. - 10.				total	11. - 15.					16. - 25.				total	26. over			
LIKERT SCALE SCORE	1	2	3	4		1	2	3	4		1	2	3	4		1	2	3	4		1	2	3	
1. Energetic instruction (teacher very enthusiastic about content area and teaching).	0	0	2	6	30	0	1	3	6	35	0	0	2	11	50	0	0	2	7	34	0	0	1	
2. Use of visual aids (overheads, posters, videos, etc.).	0	1	4	2	22	0	2	3	5	33	1	0	4	8	44	0	0	6	3	30	0	0	4	
3. Incentives (privileges).	1	3	2	2	21	0	5	4	1	23	1	2	7	3	37	0	2	5	2	27	0	2	6	
4. Positive feedback / praise / approval / affirmations.	0	1	2	5	28	0	1	3	6	38	0	0	5	8	47	0	1	4	4	30	0	0	4	
5. Rewards (concrete, tangible items).	1	5	1	1	18	0	5	3	2	27	1	2	7	3	37	0	1	4	4	30	0	4	5	
6. Sharing self with students (telling stories about self and own mistakes).	0	4	3	1	21	0	4	2	4	33	0	4	3	6	41	0	1	6	2	28	0	2	6	
7. Negative feedback and criticism.	4	4	0	0	12	4	4	2	0	18	5	7	1	0	21	3	4	1	1	18	7	4	1	
8. Providing opportunities for students to feel needed (grading, set up, attendance).	1	1	4	1	19	1	2	5	2	19	0	5	5	3	38	0	1	4	4	30	0	2	5	
9. Making lessons fun.	0	0	3	5	29	0	0	2	8	47	0	1	3	9	38	1	2	1	5	28	0	0	3	
10. Threatening consequences.	2	6	0	0	14	4	6	0	0	22	5	8	0	0	20	4	5	0	0	14	6	4	1	
11. Allowing students some control (choice of assignments and or topics).	0	1	5	1	21	0	5	4	1	6	1	5	5	1	29	0	1	3	5	31	1	2	7	
12. Ensuring assignments/tasks are challenging (high but realistic expectations).	0	2	5	1	23	0	2	5	3	28	0	1	6	6	44	0	0	4	5	32	0	0	8	
13. Arousing curiosity.	0	0	4	4	28	0	0	4	6	39	0	0	5	8	47	0	0	4	5	32	0	0	4	
14. Well organized classrooms and lessons.	0	0	3	5	29	0	1	3	6	33	0	0	2	11	50	0	0	3	6	33	0	0	2	
15. Seating arrangements.	0	4	3	1	21	0	3	3	4	33	0	4	8	1	36	0	1	6	2	28	0	1	5	
16. Active lessons and actions in the classroom.	0	1	3	3	23	0	0	3	7	39	0	0	5	8	47	0	0	3	6	33	0	0	5	
17. Varying teaching strategies and activities.	0	1	4	3	26	0	0	3	7	39	0	0	4	9	48	0	0	3	6	33	0	0	3	
18. Building rapport with students (showing interest in, out of school information).	0	0	3	5	29	0	0	3	7	37	0	0	2	11	47	1	0	0	8	3	0	0	2	
19. Competition.	0	3	5	0	21	0	1	7	2	35	1	3	9	0	33	0	2	5	2	27	0	1	8	
20. Emphasizing grades.	1	5	1	0	14	1	5	3	1	24	0	6	7	0	34	1	3	4	1	23	0	5	7	
21. Reviewing learning objectives (students understand expectation and use of examples).	0	2	5	1	23	0	3	4	3	28	1	0	5	6	44	0	1	6	2	28	0	2	5	
22. Making lessons relevant to real life.	0	1	6	1	24	0	1	3	6	35	0	0	4	9	48	0	1	2	6	32	0	0	3	
23. Involving students in lessons (feedback from student and integration of feedback).	0	1	6	1	24	0	2	6	2	28	0	3	5	5	41	0	0	3	6	33	0	1	4	
24. Developing sense of competency in students (self-esteem).	0	1	5	2	25	0	1	5	4	33	0	1	6	6	44	0	0	5	4	31	0	0	5	
25. Allowing students to make connections to others.	0	1	7	0	23	0	2	4	4	30	0	2	8	3	28	0	1	4	4	30	0	1	8	
26. Allowing students some degree of autonomy.	0	1	6	1	24	0	1	7	2	31	0	6	6	1	34	0	1	4	4	30	0	1	8	
27. Providing opportunities for originality and self-expression.	0	1	6	1	24	0	2	4	4	49	0	4	6	3	38	0	0	4	5	32	0	0	5	
28. Parent involvement.	0	2	3	3	25	0	3	3	4	25	0	2	6	5	40	1	1	0	7	31	0	1	2	

Figure 7. Comparison of effectiveness, based on the number of years of teaching experience.

EFFECTIVENESS

3 years and under			4 - 10 years		11 - 15 years	
30	Energetic instruction	49	Providing opportunities for originality and self-expression.	50	Energetic instruction	
29	Making lessons fun.	47	Making lessons fun.	50	Well organized classrooms and lessons.	
29	Well organized classrooms and lessons.	39	Arousing curiosity.	48	Varying teaching strategies and activities.	
29	Building rapport with students	39	Active lessons and actions in the classroom.	48	Making lessons relevant to real life.	
28	Positive feedback / praise / approval / affirmations.	39	Varying teaching strategies and activities.	47	Positive feedback / praise / approval / affirmations.	
28	Arousing curiosity.	38	Positive feedback / praise / approval / affirmations.	47	Arousing curiosity.	
26	Varying teaching strategies and activities.	37	Building rapport with students	47	Active lessons and actions in the classroom.	
25	Developing sense of competency in students	35	Energetic instruction	47	Building rapport with students	
25	Parent involvement.	35	Competition.	44	Use of visual aids	
24	Making lessons relevant to real life.	35	Making lessons relevant to real life.	44	Ensuring assignments/tasks are challenging	
24	Involving students in lessons	33	Use of visual aids	44	Reviewing learning objectives	
24	Allowing students some degree of autonomy.	33	Sharing self with students	44	Developing sense of competency in students	
24	Providing opportunities for originality and self-expression.	33	Well organized classrooms and lessons.	41	Sharing self with students	
23	Ensuring assignments/tasks are challenging	33	Seating arrangements.	41	Involving students in lessons	
23	Active lessons and actions in the classroom.	33	Developing sense of competency in students	40	Parent involvement.	
23	Reviewing learning objectives	31	Allowing students some degree of autonomy.	38	Providing opportunities for students to feel needed	
23	Allowing students to make connections to others.	30	Allowing students to make connections to others.	38	Making lessons fun.	
22	Use of visual aids	28	Ensuring assignments/tasks are challenging	38	Providing opportunities for originality and self-expression.	
21	Incentives (privileges).	28	Reviewing learning objectives	37	Incentives (privileges).	
21	Sharing self with students	28	Involving students in lessons	37	Rewards (concrete, tangible items).	
21	Allowing students some control	27	Rewards (concrete, tangible items).	36	Seating arrangements.	
21	Seating arrangements.	25	Parent involvement.	34	Emphasizing grades.	
21	Competition.	24	Emphasizing grades.	34	Allowing students some degree of autonomy.	
19	Providing opportunities for students to feel needed	23	Incentives (privileges).	33	Competition.	
18	Rewards (concrete, tangible items).	22	Threatening consequences.	29	Allowing students some control	
14	Threatening consequences.	19	Providing opportunities for students to feel needed	28	Allowing students to make connections to others.	
14	Emphasizing grades.	18	Negative feedback and criticism.	21	Negative feedback and criticism.	
12	Negative feedback and criticism.	6	Allowing students some control	20	Threatening consequences.	

16 - 25 years	
34	Energetic instruction
33	Well organized classrooms and lessons.
33	Active lessons and actions in the classroom.
33	Varying teaching strategies and activities.
33	Involving students in lessons
32	Ensuring assignments/tasks are challenging
32	Arousing curiosity.
32	Making lessons relevant to real life.
32	Providing opportunities for originality and self-expression.
31	Allowing students some control
31	Developing sense of competency in students
31	Parent involvement.
30	Use of visual aids
30	Positive feedback / praise / approval / affirmations.
30	Rewards (concrete, tangible items).
30	Providing opportunities for students to feel needed
30	Allowing students to make connections to others.
30	Allowing students some degree of autonomy.
28	Sharing self with students
28	Making lessons fun.
28	Seating arrangements.
28	Reviewing learning objectives
27	Incentives (privileges).
27	Competition.
23	Emphasizing grades.
18	Negative feedback and criticism.
14	Threatening consequences.
3	Building rapport with students

26 years plus	
47	Energetic instruction
46	Well organized classrooms and lessons.
46	Building rapport with students
45	Varying teaching strategies and activities.
45	Making lessons relevant to real life.
44	Use of visual aids
44	Positive feedback / praise / approval / affirmations.
44	Arousing curiosity.
44	Parent involvement.
43	Active lessons and actions in the classroom.
43	Developing sense of competency in students
41	Making lessons fun.
41	Seating arrangements.
40	Allowing students some control
40	Ensuring assignments/tasks are challenging
39	Reviewing learning objectives
38	Competition.
38	Involving students in lessons
38	Allowing students to make connections to others.
38	Allowing students some degree of autonomy.
34	Incentives (privileges).
34	Sharing self with students
33	Providing opportunities for originality and self-expression.
31	Rewards (concrete, tangible items).
31	Providing opportunities for students to feel needed
31	Emphasizing grades.
21	Threatening consequences.
18	Negative feedback and criticism.

Figure 8. Effectiveness ranking, based on number of years of teaching experience.

Frequency of Use

YEARS TEACHING EXPERIENCE	3-under				total	4. - 10.				total	11. - 15.				total	16. - 25.				total	26 - longer		
LIKERT SCALE SCORE	1	2	3	4		1	2	3	4		1	2	3	4		1	2	3	4		1	2	3
1. Energetic instruction (teacher very enthusiastic about content area and teaching).	0	0	9	16	25	0	0	12	20	32	0	0	12	24	36	0	0	6	24	30	0	0	3
2. Use of visual aids (overheads, posters, videos, etc.).	0	6	6	8	20	0	6	3	20	29	0	0	3	36	39	0	2	9	16	27	0	4	12
3. Incentives (privileges).	1	10	3	0	14	0	12	9	0	21	0	6	15	8	29	0	2	12	12	26	0	8	21
4. Positive feedback / praise / approval / affirmations.	0	2	9	12	23	0	0	6	28	34	0	0	12	24	36	0	0	3	28	31	0	0	12
5. Rewards (concrete, tangible items).	2	8	3	0	13	1	12	3	4	20	3	4	9	8	24	0	2	12	12	26	1	10	15
6. Sharing self with students (telling stories about self and own mistakes).	0	4	12	4	20	1	4	6	16	27	0	10	3	16	29	0	4	9	12	25	0	8	6
7. Negative feedback and criticism.	1	12	0	0	13	2	12	3	0	17	1	14	6	0	21	2	8	3	4	17	4	10	3
8. Providing opportunities for students to feel needed (grading, set up, attendance).	0	8	6	4	18	1	6	9	8	24	0	8	12	8	28	0	6	15	0	21	0	6	12
9. Making lessons fun.	0	0	18	4	22	0	4	18	4	26	0	2	15	16	33	1	2	12	8	23	0	4	18
10. Threatening consequences.	2	10	0	0	12	3	12	0	0	15	4	6	9	0	19	1	12	3	0	16	6	8	3
11. Allowing students some control (choice of assignments and or topics).	1	4	12	0	17	0	16	3	0	19	1	12	6	4	23	0	6	6	12	24	2	8	12
12. Ensuring assignments/tasks are challenging (high but realistic expectations).	0	0	21	0	21	0	2	18	8	28	0	2	15	16	33	0	2	12	12	26	0	0	15
13. Arousing curiosity.	1	2	12	4	19	0	4	18	4	26	0	8	12	8	28	0	4	12	8	24	0	2	15
14. Well organized classrooms and lessons.	0	4	9	8	21	0	4	12	12	28	0	2	6	28	36	0	2	3	24	29	0	2	3
15. Seating arrangements.	0	8	6	4	18	0	4	3	24	31	0	8	12	8	28	0	6	9	8	23	0	2	9
16. Active lessons and actions in the classroom.	0	0	12	12	24	0	0	15	16	31	0	2	6	28	36	0	2	9	16	27	0	0	21
17. Varying teaching strategies and activities.	0	0	12	12	24	0	0	18	12	30	0	0	12	24	36	0	0	6	24	30	0	2	15
18. Building rapport with students (showing interest in, out of school information).	0	2	12	8	22	0	0	12	20	32	0	0	3	36	39	0	2	9	16	27	0	2	9
19. Competition.	0	8	9	0	17	0	12	9	0	21	2	12	6	0	20	0	6	6	12	24	1	4	18
20. Emphasizing grades.	0	10	6	0	16	0	10	9	4	23	0	6	21	0	27	0	8	6	8	22	0	12	15
21. Reviewing learning objectives (students understand expectation and use of examples).	0	8	6	4	18	0	4	9	16	29	0	2	9	24	35	0	2	12	12	26	0	2	18
22. Making lessons relevant to real life.	0	2	12	8	22	0	4	12	12	28	0	2	24	4	30	0	0	12	16	28	0	1	9
23. Involving students in lessons (feedback from student and integration of feedback).	1	2	15	0	18	0	8	3	16	27	0	6	15	8	29	0	2	6	20	28	0	4	15
24. Developing sense of competency in students (self-esteem).	0	0	18	4	22	0	2	6	24	32	0	0	24	8	32	0	2	6	16	24	0	2	18
25. Allowing students to make connections to others.	0	4	15	0	19	0	8	9	8	25	0	6	18	4	28	0	0	3	28	31	0	0	27
26. Allowing students some degree of autonomy.	0	4	15	0	19	0	10	12	0	22	0	10	15	0	25	0	0	9	20	29	0	6	18
27. Providing opportunities for originality and self-expression.	0	4	9	8	21	0	2	15	12	29	0	6	15	8	29	0	0	9	20	29	0	8	12
28. Parent involvement.	0	8	6	4	18	0	10	9	4	23	0	14	6	4	24	0	0	3	20	23	2	6	9

Figure 9. Effectiveness ranking, based on number of years of teaching experience and Likert scale score.

FREQUENCY OF USE

YEARS OF EXPERIENCE

3 and under years of experience		4 – 10 years experience		11 – 15 years of experience
25	1. Energetic instruction	4. Positive feedback / praise / approval / affirmations. 39	34	2. Use of visual aids
24	16. Active lessons and actions in the classroom.	1. Energetic instruction	32	18. Building rapport with students
24	17. Varying teaching strategies and activities.	18. Building rapport with students	32	1. Energetic instruction
23	4. Positive feedback / praise / approval / affirmations.	24. Developing sense of competency in students	32	4. Positive feedback / praise / approval / affirmations.
22	9. Making lessons fun.	15. Seating arrangements.	31	14. Well organized classrooms and lessons.
22	18. Building rapport with students	16. Active lessons and actions in the classroom.	31	16. Active lessons and actions in the classroom.
22	22. Making lessons relevant to real life.	17. Varying teaching strategies and activities.	30	17. Varying teaching strategies and activities.
22	24. Developing sense of competency in students	2. Use of visual aids	29	21. Reviewing learning objectives
21	12. Ensuring assignments/tasks are challenging	21. Reviewing learning objectives	29	9. Making lessons fun.
21	14. Well organized classrooms and lessons.	27. Providing opportunities for originality and self-expression.	29	12. Ensuring assignments/tasks are challenging
21	27. Providing opportunities for originality and self-expression.	12. Ensuring assignments/tasks are challenging	28	24. Developing sense of competency in students
20	2. Use of visual aids	14. Well organized classrooms and lessons.	28	22. Making lessons relevant to real life.
20	6. Sharing self with students	22. Making lessons relevant to real life.	28	3. Incentives (privileges).
19	13. Arousing curiosity.	6. Sharing self with students	27	6. Sharing self with students
19	25. Allowing students to make connections to others.	23. Involving students in lessons	27	23. Involving students in lessons
19	26. Allowing students some degree of autonomy.	9. Making lessons fun.	26	27. Providing opportunities for originality and self-expression.
18	8. Providing opportunities for students to feel needed	13. Arousing curiosity.	26	8. Providing opportunities for students to feel needed
18	15. Seating arrangements.	25. Allowing students to make connections to others.	25	13. Arousing curiosity.
18	21. Reviewing learning objectives	8. Providing opportunities for students to feel needed	25	15. Seating arrangements.
18	23. Involving students in lessons	20. Emphasizing grades.	24	25. Allowing students to make connections to others.
18	28. Parent involvement.	28. Parent involvement.	23	20. Emphasizing grades.
17	11. Allowing students some control	26. Allowing students some degree of autonomy.	22	5. Rewards (concrete, tangible items).
17	19. Competition.	3. Incentives (privileges).	21	11. Allowing students some control
16	20. Emphasizing grades.	19. Competition.	21	28. Parent involvement.
14	3. Incentives (privileges).	5. Rewards (concrete, tangible items).	20	26. Allowing students some degree of autonomy.
13	5. Rewards (concrete, tangible items).	11. Allowing students some control	19	7. Negative feedback and criticism.
13	7. Negative feedback and criticism.		17	19. Competition.
12	10. Threatening consequences.	10. Threatening consequences.	15	10. Threatening consequences.

16 – 25 years of experience

31	25. Allowing students to make connections to others.
31	4. Positive feedback / praise / approval / affirmations.
30	1. Energetic instruction
30	17. Varying teaching strategies and activities.
29	14. Well organized classrooms and lessons.
29	26. Allowing students some degree of autonomy.
29	27. Providing opportunities for originality and self-expression.
28	22. Making lessons relevant to real life.
28	23. Involving students in lessons
27	2. Use of visual aids
27	16. Active lessons and actions in the classroom.
27	18. Building rapport with students
26	3. Incentives (privileges).
26	5. Rewards (concrete, tangible items).
26	12. Ensuring assignments/tasks are challenging
26	21. Reviewing learning objectives
25	6. Sharing self with students
24	11. Allowing students some control
24	13. Arousing curiosity.
24	19. Competition.
24	24. Developing sense of competency in students
23	9. Making lessons fun.
23	15. Seating arrangements.
23	28. Parent involvement.
22	20. Emphasizing grades.
21	8. Providing opportunities for students to feel needed
17	7. Negative feedback and criticism.
16	10. Threatening consequences.

26 or more years experience

43	1. Energetic instruction
41	14. Well organized classrooms and lessons.
40	4. Positive feedback / praise / approval / affirmations.
39	12. Ensuring assignments/tasks are challenging
39	15. Seating arrangements.
38	22. Making lessons relevant to real life.
37	13. Arousing curiosity.
37	17. Varying teaching strategies and activities.
36	2. Use of visual aids
36	21. Reviewing learning objectives
36	24. Developing sense of competency in students
35	18. Building rapport with students
34	6. Sharing self with students
34	9. Making lessons fun.
33	16. Active lessons and actions in the classroom.
32	27. Providing opportunities for originality and self-expression.
31	23. Involving students in lessons
31	25. Allowing students to make connections to others.
29	3. Incentives (privileges).
29	28. Parent involvement.
28	26. Allowing students some degree of autonomy.
27	19. Competition.
27	20. Emphasizing grades.
26	5. Rewards (concrete, tangible items).
26	8. Providing opportunities for students to feel needed
26	11. Allowing students some control
17	7. Negative feedback and criticism.
17	10. Threatening consequences.

Figure 10. Frequency of use, based on number of years of teaching experience.

YEARS OF EXPERIENCE	RANKING	EFFECTIVESS STRATEGY	**FREQUENCY OF USE STRATEGY**
3 AND UNDER	1ST	1. Energetic instruction (teacher very enthusiastic about content area and teaching).	1. Energetic instruction (teacher very enthusiastic about content area and teaching).
	2ND	4. Positive feedback / praise / approval / affirmations.	4. Positive feedback / praise / approval / affirmations.
	3RD	14. Well organized classrooms and lessons. 16. Active lessons and actions in the classroom.	**ALL RESPONSES WERE DIFFERENT SO NO 1ST CHOICE**
4 – 10	1ST	18. Building rapport with students (showing interest in, out of school information).	18. Building rapport with students (showing interest in, out of school information).
	2ND	14. Well organized classrooms and lessons. 17. Varying teaching strategies and activities.	4. Positive feedback / praise / approval / affirmations.
	3RD	1. Energetic instruction (teacher very enthusiastic about content area and teaching).	16. Active lessons and actions in the classroom.
11 – 15	1ST	1. Energetic instruction (teacher very enthusiastic about content area and teaching).	2. Use of visual aids (overheads, posters, videos, etc.). 4. Positive feedback / praise / approval / affirmations.
	2ND	2. Use of visual aids (overheads, posters, videos, etc.). 14. Well organized classrooms and lessons.	14. Well organized classrooms and lessons. 16. Active lessons and actions in the classroom.
	3RD	4. Positive feedback / praise / approval / affirmations. 14. Well organized classrooms and lessons.	18. Building rapport with students (showing interest in, out of school information).
16 – 25	1ST	**ALL RESPONSES WERE DIFFERENT SO NO 1ST CHOICE**	4. Positive feedback / praise / approval / affirmations. 18. Building rapport with students (showing interest in, out of school information).
	2ND	18. Building rapport with students (showing interest in, out of school information).	**ALL RESPONSES WERE DIFFERENT SO NO 1ST CHOICE**
	3RD	1. Energetic instruction (teacher very enthusiastic about content area and teaching).	19. Competition.
26 AND OVER	1ST	22. Making lessons relevant to real life.	4. Positive feedback / praise / approval / affirmations. 17. Varying teaching strategies and activities.
	2ND	24. Developing sense of competency in students (self-esteem).	6. Sharing self with students (telling stories about self and own mistakes).
	3RD	28. Parent involvement.	14. Well organized classrooms and lessons. 16. Active lessons and actions in the classroom. 18. Building rapport with students.

Figure 11. Teacher selection for most effective and most frequently used strategies, related to years of teaching experience.

Results

The data that was collected gave various outcomes to the perceptions of the most effective motivational strategies and most frequently used strategies. When reviewing all aspects of the survey and data, the overall census is that the most effective motivational strategy is energetic instruction (teacher very enthusiastic about content area and teaching). Based on the Likert scale results, the top five effective motivational strategies are:

1. Energetic instruction.
2. Building rapport with students.
3. Varying teaching strategies and activities.
4. Making lessons fun.
5. Active lessons and actions in the classroom.

Based on the Likert scale scores the most frequently used motivational strategies are:

1. Energetic Instruction
2. Positive feedback, praise, approval, and affirmations.
3. Varying teaching strategies and activities.
4. Well organized classrooms and lessons.
5. Building rapport with students.

The highlighted effective strategies are the ones that do not match with the strategies used and, instead, the highlighted frequently used are used more often. A much unexpected result is that making lessons fun was considered the least used strategy. Active lessons and actions in the classroom are ranked sixth in usage. Positive feedback, praise, approval, and affirmation are used frequently in the classroom and are ranked 6th in effectiveness whereas organization ranked 13th in effectiveness. Several effective strategies are not used in the classroom often, while some of the most often used strategies are not the most effective. Based on the data, the use of visual aids is considered an effective motivational strategy, but ranked 24th in frequency of use. The data also suggest that arousing curiosity is used fairly often in the classroom, but is ranked 20th in

effectiveness. Based on the Likert scale scores, most of the strategies rank relatively similar in effectiveness and frequency of use.

When teachers were give the opportunity to select the top three effective strategies and list the top three strategies they think are most often used, the results do suggest that that the most effective strategies are not being used often in the classroom. Figure 12 displays the top five effective strategies and their rank of frequency of use, based on the opinion section of the survey.

EFFECTIVENESS RANKING	MOTIVATIONAL STRATEGY	FREQUENCY OF USE RANKING
1	Energetic instruction	4th
2	Incentives (privileges)	17th
3	Competition	12th
4	Rewards	16th
5	Ensuring assignments/tasks are challenging	23rd

Figure 12. The top five motivational strategies and frequency of use ranking.

Energetic instruction is the top choice for effectiveness in both the Likert scale and opinion part of the survey. It is in the top four for frequency of use. There are huge differences between what the Likert scale scores suggest are the other most effective and most used motivational strategies and what the opinion section suggests.

When the responses to the survey were divided into five subcategories, based on years of teaching experience, and based on the Likert scale, energetic instruction ranked first in effectiveness in all groups except the 4 – 10 years of experience group. It ranked eighth in that group. There were no other strategies that scored similarly in all five groups. For 3 and under years of teaching experience group, the second choice is making lessons fun, and the third choice is well-organized classrooms and lessons. The group with 4 – 10 years experience ranked providing opportunities for originality and self-expression as the most effective motivational

strategy. The second choice was making lessons fun and the third choice was arousing curiosity. The group with 11 – 15 years of experience ranked well-organized classrooms and lessons as second most effective strategy and varying teaching strategies and activities as third. Both the 16 – 25 years of experience group and the 26 and over years of experience group selected well-organized classrooms and lessons as the second most effective strategy but varied in their third choice. The 16 -25 years of experience group selected active lessons and actions in the classroom as the third most effective and the 26 and over years of experience group selected building a rapport with the students. All groups ranked threatening consequences and negative feedback/criticism as some of the most ineffective motivational strategies. There did not appear to be a pattern as experience increased.

The frequency of use data was also divided into the same five subgroup categories. The only strategy that ranked equally in all subgroups was threatening consequences. It ranked last in all groups. Energetic instruction was in the top three in all groups. Again, in all groups, the strategies that are considered to be the best at motivating students are not the strategies most often used in the classroom. The biggest discrepancies are in the 4 – 10 years experience group. The group that has the closest similarities is the 26 and over years of experience group. This suggests that after the newness of teaching is gone, teachers begin to focus on how to teach better and motivate students, and spend several years discovering what works for them, As time progresses, they are able to use the strategies they feel are most effective more often in the classroom.

The data from the opinion section of the survey is not similar to the Likert scale section. It does provide the data that supports energetic instruction as the most effective motivational strategy. Again, the effectiveness ranking and frequency of use ranking are very different in each

group. The group that has the most similarities, with regard to teacher opinions, is the least experienced group of teachers, the 3 years and under group. The group with the most difference and the largest range is the 26 and over years of experience group. When a comparison of the overall statistics of the groups is compared to the overall results of the opinion section of the survey, there are, again, many differences. When a comparison is made between the opinion sections of the group rating and overall, the group that has the most similarity is the 11 – 15 years of experience group. The group that has the largest discrepancies is the 26 and over years of experience group. This is the group with the most similarities on the Likert scale.

The most valid and reliable results of the survey are:

1. Energetic instruction in an effective motivational strategy and it is used frequently in the classroom.
2. Threatening consequences and negative feedback/criticism are not effective motivational strategies and are not used frequently in the classroom.
3. The most effective strategies are not the strategies most often used in the classroom.

The other strategies that the data supports to be effective motivational strategies are having organized classes and lessons, varying teaching strategies, and using positive feedback. As teachers increase their experience, it does not appear that they increase the similarities of what is most effective to use in the classroom. Experience does change what teachers see as effective forms of motivational strategies.

Conclusions and Recommendation

Motivation is a large part of teaching at every aspect. How teachers use, and which motivational strategies teachers use, varies dependent on how long they have been teaching. The most effective strategies, based on the survey, are energetic instruction, well-organized classrooms, varying teaching methods, and use of positive feedback. From the Likert scale, the three strategies are frequently used. A majority of the other strategies have a wide range overall

and within the groups both in effect and use. This may be a result of observation versus practice, but a definite conclusion cannot be determined, based on the data collected or the literature reviewed. Again, there is a discrepancy of what teachers feel about strategy use and what the feel are the most effective strategies.

The data collected and the literature reviewed did not give adequate information to answer the question of why certain strategies are considered most effective or used more frequently. The survey suggests that the strategies considered being most effective help students to increase interest, keep students on task, and address different learning styles. Addressing learning styles is usually not an issue addressed by motivational strategies. The data collected suggests that the reasons teachers do not change to different motivational strategies is because there is a lack of time, funding, and/or training to allow them to introduce these new strategies.

The survey and the literature review, to some degree support the hypothesis that the most used motivational strategies are not the most effective for developing long-term learners. It appears teachers are using some intrinsic strategies to help develop long-term, self-motivational processes in students but may be counteracting this process by over using extrinsic motivational strategies. Teachers are using extrinsic motivational strategies to have immediate response such as behavior change and maintaining focus. The data and literature review support the concept that teachers would like to use different strategies but do not. The data does support the hypothesis that, usually, the most frequent used motivational strategies are not the most effective ones. However, due to such differences in the results from the Likert scale, opinion section, and grouping, the reliability and validity of the data is still to be determined.

The data does support motivation as one of the foremost issues in education, but it is often inadequately addressed (Ames, 1990). “When we consider the preponderance of public

evaluation practices, normative comparisons, extrinsic rewards, ability grouping, and emphasis on production, speed, and perfection, it is no wonder that children find it difficult to maintain learning or mastering orientation" (Ames, 1990). It is imperative that teachers find ways to motivate students. It is also important to not give up on a child, but to keep trying to find a motivational strategy to use because all students can learn and be successful (Guest, & Hilton, 1996).

Discussion

There are some issues that arouse as a result of this study and some questions that were not adequately answered. One issue is the difference in ranking of strategies between the Likert scale and the opinion section. It would be more valid if the teacher opinion supported the results of effectiveness and frequency of use from the Likert scale. One of the issues that needs to be addressed is the number of responses to the survey. Even though there were similar numbers in each experience group, more surveys than 52 would make the data more reliable and valid. There were some questions that arose as a result of the survey. One of them is: Why do teachers not use what they feel to be the most effective motivational strategies more often?

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Effects of Groups Choice Methodology on Cooperative Learning

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The Institutional Review Board of the University of Tennessee at Chattanooga (FWA00004149) has approved this research project 06-051.

Area of Focus Statement

The purpose of this study is to describe the impact of group choice methodology on academic success of cooperative learning groups.

Review of the Literature

There is an array of information concerning cooperative learning groups and how they effect the academic success. However, I could not find information concerning the effects of choice methodology. I hope that, during my action research, I can find more information, and see first-hand how this methodology effects students' academic success.

Several articles on cooperative learning suggest that the strategy used in the cooperative learning atmosphere allows the students to use different talents and abilities. One article, however, suggests that the key to a successful cooperative learning environment is that it is "artificially structured" (Matthews, 1993). The author suggests giving each member of the class specific learning goals instead of providing joint learning goals.

In setting up a classroom for cooperative learning, one must look at every aspect, even desired behaviors. One study suggests incorporating a group evaluating system so that the students can see for themselves how a teacher might evaluate their performance on a task or if a particular behavior is desired (Reeder, Salend, & Whittaker, 1992). In the findings, the authors concluded that students become aware of how their individual behavior either helps or hinders the group's ability to receive the incentive or reward being offered. Another author points out that students realize that, in order to reach their overall academic goals, each member of the group also must meet their goals (Jones & Steinbrink, 1993).

Jones and Steinbrink (1993) point out that cooperative learning methods in the classroom setting are increasing. However, increased concerned about incomplete or overly simplistic

applications has been expressed. They also point out that in order for a cooperative group to improve academic success, a group goal must be set along with individual accountability.

According to Robert Slavin, cooperative learning methods share the idea that students work together to learn and share the responsibility for one another's learning, as well as their own (1996). He has developed three concepts that he says are essential to cooperative learning:

1. Team rewards – Teams earn certificates or other awards if they achieve above a designated criterion.
2. Individual accountability – The team's success depends on the individual learning of all team members.
3. Equal opportunity for success – Students contribute to their teams by improving over their own past performance.

In studies conducted on academic achievement, 63 percent found significantly greater achievement in cooperative than in control classes. The studies have also shown that students in cooperative learning groups have more positive feelings about themselves and have better on-task management skills (1996).

Data Collection and Results

Methods

Variables

The research will focus on the group choice methodology of cooperative learning, which will be subject to change, as follows:

- Students in one class will be in cooperative learning groups chosen by themselves.
- Students in one class will be in cooperative learning groups chosen by me, the instructor.

Research Question

What effect does allowing students to choose their cooperative learning groups have on their academic success?

Triangular Matrix

Research Question(s)	Data Resource		
	1	2	3
What effect does allowing students to choose their cooperative learning groups have on their academic success?	Student Survey	Student Work	Student Motivation Chart

Description of Intervention or Innovation

I will incorporate cooperative learning groups into my mathematics classrooms in order to discover the amount of success cooperative learning has on the students' academic career.

Membership of the Action Research Group

As the instructor, I will be working with two mathematics classes. Students in one class will be allowed to choose their cooperative group; students in the other class will be in cooperative groups chosen by me, the instructor.

Statement of Resources

The necessary resource requirements will not exceed the normal classroom resources. I will need to rearrange my classroom so that the students are able to work in a group setting. I will also need the cooperation of my administration and the parents.

Data Collection Ideas

- I will ask the students in my class to complete a survey before they get into their cooperative groups, during the experience of cooperative learning, and at the end of the cooperative learning experience. The purpose of the surveys is to find out their previous group experience, how they like the experience, and if they would have changed any part of the experience.
- I will conduct observations during group activities so that I can see how the experience is working with different individuals and groups.
- I will be collecting student work to see the progress, successfully or unsuccessfully, of the students working in groups and compare the work to the previous student work collected from when the students worked individually.

Data Collection and Results

To begin the data collection process, the students in the two different classes completed a 65-item free-response pre-assessment without any prior knowledge of the material. The students also completed the first of three surveys asking them about their previous cooperative learning experiences (see Appendix A). As the material was being taught, through various teaching strategies, the students completed their second survey, asking them about their current cooperative learning experience (see Appendix B). After the material was taught, the students completed a 65-item free-response post-assessment consisting of the same questions from the pre-assessment. Also, at this time, the students completed their final survey asking them about their overall cooperative learning experience (see Appendix C). Both the pre-assessment and post-assessment results were shared with the students. However, neither the pre-assessment nor the post-assessment was calculated as part of the overall grade for the class.

Results

The pre-assessment results showed that both classes had insufficient knowledge of the material being covered. As shown in Figure 1, the pre-assessment average for the experimental group, who were given the opportunity to choose their group members, was 20%. The pre-assessment average for the control group, who were not given the opportunity to choose their group members, was 18%. The post-assessment results for both classes showed vast improvement, however, the experimental group's average was 9 percentage points higher than the control group. The final results shows that the experimental group's post-assessment average was 84% and the control group's post-assessment average was 75%.

The surveys completed by the students indicated that the majority of the students had not been given the opportunity to participate in cooperative learning groups before entering my classroom. They also indicated that most of the students preferred selecting the members of their group instead of being assigned group members. In the final survey, the students in the control group indicated that they did not enjoy working in the group to which they were assigned, whereas the experimental group indicated that they generally enjoyed working in their group. Both classes, surprisingly, indicated that working in a group setting did not necessarily help them learn better.

Conclusion and Recommendations

I believe working in cooperative learning groups is hit or miss when it comes to an effective learning strategy. Most students enjoyed working in the group setting, however, they did not feel that it helped significantly in their learning and succeeding. Although motivation improved greatly in the beginning, rewards and peer expectations did not seem to have an effect on those students who it benefited in the beginning. I would recommend that any teacher, at

least, try to use this type of strategy in their classroom. However, I would consistently get feedback from the students. If they feel the experience is not benefiting them, then, maybe, trying variations of the setting or allowing the students to work in cooperative learning groups on certain assignments, will give the students the opportunity to try different types of learning strategies.

Student ID	Pre-Test	Post-Test	Student ID	Pre-Test	Post-Test
1-1	23	85	3-1	5	81
1-2	15	76	3-2	1	77
1-3	18	72	3-3	10	72
1-4	10	70	3-4	13	74
1-5	5	65	3-5	15	70
1-6	27	88	3-6	10	84
1-7	17	81	3-7	4	43
1-8	20	84	3-8	17	63
1-9	25	92	3-9	20	69
1-10	26	94	3-10	23	75
1-11	22	91	3-11	26	78
1-12	25	87	3-12	31	84
1-13	24	69	3-13	13	79
1-14	23	88	3-14	19	76
1-15	17	73	3-15	26	88
1-16	10	79	3-16	20	82
1-17	13	74	3-17	18	72
1-18	25	82	3-18	10	61
1-19	22	91	3-19	14	67
1-20	18	96	3-20	29	78
1-21	15	83	3-21	35	94
1-22	23	90	3-22	29	78
1-23	30	96	3-23	22	76
1-24	22	96	3-24	25	81
1-25	21	81	3-25	29	88
1-26	27	76	3-26	26	83
1-27	16	84	3-27	15	74
1-28	27	88	3-28	13	68
1-29	28	90	3-29	8	60
1-30	20	93	3-30	22	86
Average	20	84	3-31	19	77
			Average	18	75

Figure 1. Individual student pre-assessment and post-assessment scores

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Appendix A

Cooperative Learning Survey – Before Study

Name _____ ID Number _____

Please answer the following questions by circling the number that represents your feeling about the question.

EX: I eat vanilla ice cream.

1	2	3	4	5
Never	Rarely	Sometimes	Frequently	Everyday

1. Before being in Mrs. Felts' class, how often did you work in groups?

1	**2**	**3**	**4**	**5**
Never	**Rarely**	**Sometimes**	**Frequently**	**Everyday**

2. I like working in groups.

1	**2**	**3**	**4**	**5**
Strongly Disagree	**Disagree**	**Undecided**	**Agree**	**Strongly Agree**

3. I work well in groups.

1	**2**	**3**	**4**	**5**
Strongly Disagree	**Disagree**	**Undecided**	**Agree**	**Strongly Agree**

4. I like picking the people I work with in my group.

1	**2**	**3**	**4**	**5**
Strongly Disagree	**Disagree**	**Undecided**	**Agree**	**Strongly Agree**

5. I think working in groups can help me learn better.

1	**2**	**3**	**4**	**5**
Strongly Disagree	**Disagree**	**Undecided**	**Agree**	**Strongly Agree**

Appendix B

Cooperative Learning Survey – During Study

Name _____ ID Number _____

Please answer the following questions by circling the number that represents your feeling about the question.

EX: I eat vanilla ice cream.

1	2	3	4	5
Never	Rarely	Sometimes	Frequently	Everyday

1. How often do you think we should work in groups?

1	**2**	**3**	**4**	**5**
Never	**Rarely**	**Sometimes**	**Frequently**	**Everyday**

2. I like working in my group.

1	**2**	**3**	**4**	**5**
Strongly Disagree	**Disagree**	**Undecided**	**Agree**	**Strongly Agree**

3. I work well in my group.

1	**2**	**3**	**4**	**5**
Strongly Disagree	**Disagree**	**Undecided**	**Agree**	**Strongly Agree**

4. I like the people I work with in my group.

1	**2**	**3**	**4**	**5**
Strongly Disagree	**Disagree**	**Undecided**	**Agree**	**Strongly Agree**

5. I think working in groups is helping me learn better.

1	**2**	**3**	**4**	**5**
Strongly Disagree	**Disagree**	**Undecided**	**Agree**	**Strongly Agree**

Appendix C

Cooperative Learning Survey – After Study

Name _____ ID Number _____

Please answer the following questions by circling the number that represents your feeling about the question.

EX: I eat vanilla ice cream.

1	2	3	4	5
Never	Rarely	Sometimes	Frequently	Everyday

1. Overall, we worked in groups too much.

1	**2**	**3**	**4**	**5**
Strongly Disagree	**Disagree**	**Undecided**	**Agree**	**Strongly Agree**

2. Overall, I liked working in my group.

1	**2**	**3**	**4**	**5**
Strongly Disagree	**Disagree**	**Undecided**	**Agree**	**Strongly Agree**

3. Overall, I worked well in my group.

1	**2**	**3**	**4**	**5**
Strongly Disagree	**Disagree**	**Undecided**	**Agree**	**Strongly Agree**

4. Overall, I liked the people I worked with in my group.

1	**2**	**3**	**4**	**5**
Strongly Disagree	**Disagree**	**Undecided**	**Agree**	**Strongly Agree**

5. Overall, I think working in my group helped me learn better.

1	**2**	**3**	**4**	**5**
Strongly Disagree	**Disagree**	**Undecided**	**Agree**	**Strongly Agree**

Effectiveness of Reading Comprehension During Small Groups

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EDUC 590, Spring 2006
The University of Tennessee at Chattanooga

The Institutional Review Board of the University of Tennessee at Chattanooga
(FWA00004149) has approved this research project 05-230

Introduction to the Problem

Lack of reading comprehension is an all too common problem in our elementary schools. It can affect academic success or failure for students. As educators, it is our job to teach these important comprehension skills and to find the best approach to use in teaching the students how to comprehend what they are reading.

Review of Literature

Burnette (1999) believes that the ever-increasing diversity in the classroom presents teachers with new challenges in reading instruction. More classrooms are faced with inclusion and teachers are greatly challenged with having to learn how to teach to a more heterogeneous group of students. Ability grouping can affect students by lowering their self-esteem and keep lower-achieving students from excelling. According to Fuchs, Fuchs, Thompson, Svenson, Yen, Al Otaiba, Yang, Nyman, McMaster, Prentice, Kazdan, and Saenz (2001) students who have poor reading skills are more likely to have self-esteem issues, are less likely to complete school, and may have greater discipline problems. They state that 25 percent of adults are "functionally illiterate" and illiterate adults account for 75 percent of the unemployed. Furthermore, illiterate adults also account for "33 percent of mothers receiving aid to families of dependent children, and 60 percent of the prison population" (p. 15). In addition, Mathes, Torgesen, Santi, Nicholas, Santi, Menchetti, Nicholas, and Morrow (2003) state, "students that leave first grade behind in reading are likely to be poor readers in third grade, and students who leave third grade as poor readers stand almost no chance of ever catching up without intensive, long-term intervention" (p. 459-460). Furthermore, students who are not fluently reading by the third grade are unlikely to earn a high school diploma. This study

aims to provide information pertinent to resolving the problem of the lack of reading comprehension among elementary students.

According to Mathes et al. (2003), small-group instruction, when led by a teacher, is more effective than whole-class instruction. They initiated two instructional strategies to see which would be more effective: Peer-Assisted Literacy Strategies (PALS) and Teacher Directed Instruction (TDI). The data appears to conclude that teachers promote reading comprehension better than peer-assisted tutoring, although peer-tutoring can increase comprehension in some circumstances.

Peer-Assisted Tutoring

When two students are placed together with the intent to share, learn, or assist each other with learning, peer-assisted tutoring is taking place. Mathes et al. (2003) used one 35-minute session each week, conducted as part of an ongoing reading program, during which students were placed in pairs – one student was a strong reader and the other was a weaker reader. One student served as the tutor and the other student served as the tutee. The tutor and tutee roles were reciprocated so that each student performed both roles for part of the time. After the students were paired, the students earned points for "fixing errors" and completing each activity. Bonus points were given to students for such activities as working together, giving praise to their partners, and remaining on task. During each lesson, students worked on five activities: letter sounds, hearing sounds, sounding out, sight words, and passage reading. Letter sounds helped students recognize "letter-sound and combination-sound correspondences." Hearing sounds helped students practice phonics, with each word getting harder. Sounding out "focused on developing unknown word identification to fluency." Sight words were designed to "develop

automatic recognition of phonetically irregular, high-frequency words." "The sounds and words routine culminated with the fifth activity, passage reading, which provided the means for integrating and generalizing previously practiced content into the fluent reading of connected text" (p. 466). After the sounds and words activity, each pair of students conducted story sharing. Students would "pretend read by predicting what was happening on each page of the story based on the pictures" (p. 466). The purpose of this activity was to help students to preview and think about what they were reading. After the tutor read the book aloud, the pairs did a "story retell." This helped both students comprehend the story.

According to Vaughn, Hughes, Moody, and Elbaum (2001), when students were asked to work with a peer, it was an effective procedure that enhanced student learning. They suggested that students were engaged in three "strategic reading activities." The first activity is partner reading with retell, the second activity is paragraph summary, and the third activity is prediction relay. Peer-tutoring provides students with "intensive, systematic practice in reading aloud, reviewing and sequencing information read, summarizing, stating main ideas, and predicting" (p. 137). Fuchs et al. state that a student's reading competence can improve when they work collaboratively on structured learning activities. They write that peer-assisted learning strategies incorporate "structured activities, with frequent verbal interaction and feedback between tutors and tutees and with reciprocity of tutoring roles" (p. 17). Pairing students and awarding points to the teams repeat the ideas of Mathes et al. Where they differ is at paragraph summary. Fuchs et al. (2001) suggest that paragraph shrinking is designed to develop comprehension through summarization and main idea identification. Students read

orally, and, at the end of each paragraph, the student stops reading and identifies the main ideas. The tutors ask the readers to identify the main ideas by asking questions such as who or what the paragraph is about and/or to identify the most important thing about the subject of the paragraph. This must be stated in 10 words or less. According to Fuchs et al. (2001), Peer Assisted Learning Strategies increase reading fluency and comprehension for students with learning disabilities, as well as low- and average-achieving students.

Teacher-Directed Instruction

Cunningham, Hall, and Defee (1998) feel that the best approach to teaching small groups is the "Four Blocks" method. Their study lasted 8 years and they saw tremendous increases in reading abilities. Teachers can adopt the Four Blocks method and use it many different ways with the result being an increase in reading abilities. They suggest that 2 1/2 hours be allotted for reading instruction. The first block is guided reading, followed by self-selected reading, then writing, and, finally, working with words. Cunningham et al. state, "the purpose of guided reading is to expose children to a wide range of literature, teach comprehension strategies, and teach children how to read in materials that become increasingly more difficult" (p. 653). The Four Blocks method partially aligns with PALS in that students take a "picture walk" through the book, making predictions and pointing out difficult vocabulary words. Students then read the selection with a partner. Where the method differs from PALS occurs when the class reconvenes, talks about the book, or reads the book in a whole-class format. In guided reading, the teacher chooses two books to read. One book is at grade level, and the other book is below grade level. Each book is read multiple times for varying purposes. Children who need help are partnered with another student.

In the self-selected reading block, the teacher reads a book aloud. The students then read books they have chosen from their reading level. While students read, the teacher talks with a student while writing anecdotal records. The block ends with a student sharing their book with the class in the "reader's chair" format. The writing block begins with the teacher modeling what a writer would do. The teacher thinks aloud, trying to decide on a topic about which to write. While writing, the teacher looks to the word wall to check spelling, etc. When the piece is finished, the students help edit the work. While the students write, the teacher holds a student-teacher conference to help the student publish their work. In the working with words block, the students learn to read and spell high-frequency words, and learn the patterns that allow them to decode and spell other words. The word wall is used only for high-frequency words.

Short, Kane, and Peeling (2000) believe that small-group instruction should be focused on three things: "rereading familiar texts, shared and guided reading, and shared and guided writing" (p. 287). They believe that rereading texts helps in the development of reading fluency. Also, it gives children motivation to read and enhances their self-esteem. Students were taught to ask themselves questions such as, "Does that make sense?" and "Does it look right?" These are the same suggestions that Cunningham et al. used (1998). Morrow (1990) suggests that reading to students with regularity enhances literacy development. She discusses several behaviors that enhance the effectiveness of literacy development and identified two factors that are needed when implementing cooperative learning. She found that reading to children in small groups increased their verbal participation and their reading comprehension, as well.

Mathes et al.(2003) suggest the teacher-conducted TDI lessons be made up of four to five students. The same content covered using the PALS lessons will be used in the teacher-directed instruction. The goal for TDI is to ensure that each student has learned the "sounds and words portion of the lesson" (p. 468). Teachers are encouraged to scaffold instruction according to students' needs rather than following one prescribed correction procedure. "If mastery was not achieved within 20 minutes, teachers were to stop for the day and conduct story sharing. Likewise, if a sounds and words lesson required fewer than 15 minutes, teachers were directed to continue on to the next lesson" (p. 468).

Burnette (1999) states that small-group reading instruction has been shown through research to be more effective than whole-class instruction. She writes that breaking the class into groups of 3 to 10 students, with teacher-directed instruction, helps students to learn more than with whole-class instruction. Vaughn et al. (2001) agree with Burnette. Vaughn et al. suggest that "small-group instruction offers an environment for teachers to provide students extensive opportunities to express what they know and receive feedback from other students and the teacher" (p. 131). Furthermore, Vaughn et al. write that, in literature from different academic areas for students with disabilities, research has revealed that one-to-one instruction was not superior to small-group instruction. In addition, several benefits were identified such as "more efficient use of teacher and student time, lower cost, increased instructional time, increased peer interaction, and opportunities for students to improve generalization of skills" (p.131).

The research has shown that children who can not read are at a great disadvantage in our society. The research has also shown that both the Peer-Assisted

Learning Strategies and the Teacher-Directed Instruction are effective in developing reading comprehension. I will be investigating which method, the Peer-Assisted Learning Strategies or Teacher- Directed Instruction, improves reading comprehension in lower-achieving students to the highest degree.

Data Collection and Results

Subjects

The study will be conducted in a primary grade classroom involving a mix of boys and girls. The classroom will be diverse with students coming from varying ethnicities, backgrounds, and financial resources. I also expect that several of the students will be on free and reduced-cost lunch. The participants of this study will be grouped heterogeneously by ability level. This will be a group of four second graders.

Procedures

The four students will participate in both the Peer-Assisted Tutoring and the Teacher-Directed Instruction. The teacher will explain the procedures to the students. Students will be in each group for approximately 2 weeks. The baseline score for each student will be based on the DIBELS (Dynamic Indicators of Basic Early Literacy Skills) test. This test measures initial sound fluency, phoneme segmentation fluency, oral reading fluency, and retell fluency. For this study, I will only be using the scores for oral reading fluency and retell fluency. In the oral reading fluency section, student performance is measured by having students read a passage aloud for 1 minute. Words omitted, words substituted, and hesitations of more than 3 seconds are scored as errors. Words self-corrected within 3 seconds are scored as accurate. The number of correct words per minute from the passage is the oral reading fluency rate. Retell fluency is

intended to provide a comprehension to check for the oral reading fluency assessment. Students will be taught using a reading program already in place. The students' progress will be based on two prongs. First, quantitatively, the baseline and post-test will be based on the DIBELS. Second, qualitatively, the students will be given teacher-made tests at the end of each story. Students will be given story webs to complete and will be given teacher-made tests at the completion of each new book. The teacher-made tests will measure what the students have gained from reading the book, for example, knowing the main character, setting, plot, etc. Students will be asked to retell a story in their own words as part of the teacher-made test. The teacher will note items missed in the retell, as well as items that have been added. This study will last approximately 4 weeks.

The information will be credible, in that the observation will last for several weeks. I will do "peer debriefing" and practice "triangulation" (Mills, 2003, p.79). I want input from other teachers as to what they think the research will show and which method they think will most improve reading comprehension. Triangulation will be implemented by using a variety of techniques. I will be using the DIEBELS and teacher-made tests. The research will be transferable so that any class could implement this research, and it will be dependable in that the data will remain stable, again using triangulation.

Documentation will be vital to this research and all information will be kept confidential. After the research has taken place, the data will be analyzed and graphed. A graph will be used to show the baseline scores and the post-test scores when the DIEBELS scores have been calculated. The other graph will show how each student progressed on each of the two models (PALS and TDI), taking into account the scores

each student received on each activity. There will also be a graph that shows the overall progression from the beginning to the end of the study, showing the increase and/or decrease in reading comprehension. The results will include whether a student was not involved in the research or whether a student dropped out. The scores of those students who do not participate will not be included in the results.

Results

Seven students started the project and three were removed. One student was removed because he moved out of the area; the other two students were removed due to absences. There were four students who completed all 4 weeks of instruction. During the first 2 weeks, the students participated in peer-assisted learning. The students were instructed to read a few pages of the book then go back and talk about what they were reading. I was hoping that the students would discuss the characters, the setting, and what was happening in the story, however, students were easily distracted and would talk about other things. Each day, I would reemphasize the importance of reading the book and discussing it. The students were aware that a test would be administered after reading each book and that talking about the book would only increase their score. Figure 1 shows the scores on the Accelerated Reader tests taken during the first two weeks using the peer-instructed strategy.

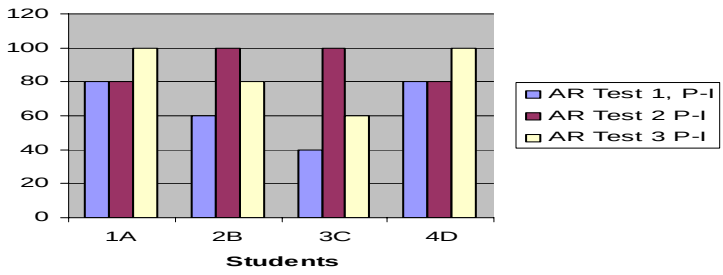

Figure1. Accelerated Reader test scores for the first 2 weeks of the study, using peer-assisted learning.

The last 2 weeks were focused on teacher-directed instruction. I introduced the five W's approach: who, what, when, where and why. During each story I read, we discussed each of these. To reinforce the idea, I would give each student one of the W's to share with the other students. I wanted the students to really embrace this idea. The students were more focused during the teacher-directed instruction than during the Peer-Directed Strategy. I had more control over the students and could keep their attention. Figure 2 shows the progress of the students using teacher- directed instruction. Figure 2 shows the progress of the students using teacher- directed instruction.

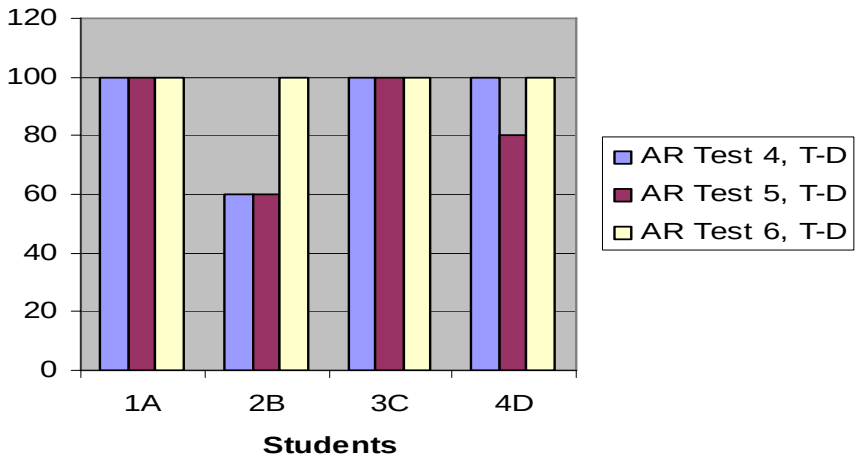

Figure 2. Accelerated Reader test scores for the last 2 weeks of the study, Using teacher-directed instruction.

Figure 3 shows the progression of the students. I have taken averages for their previous four Accelerated Reader Tests, along with the tests taken during peer-instructed and teacher-directed Instruction. This graph shows the teacher-directed instruction grades were greater that peer instructed grades and greater than previous Accelerated Reader grades.

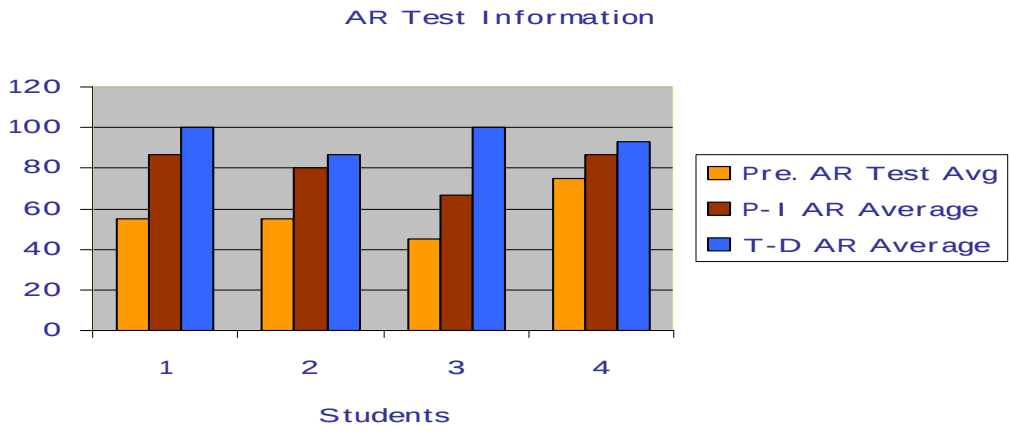

Figure 3. A comparison of Accelerated Reader test scores for previous work, peer-instructed work, and teacher-directed work.

Teacher-made tests were also used to gage student understanding of the books that were either read with a peer or read by the teacher. When the students were using the peer-instructed strategy, teacher input was prohibited. Only students were able to talk and no student questions were answered. The results are shown in figure 4. Students made a steady progression rising from the first test given on the peer-instructed strategy to the last test using the teacher-directed instruction.

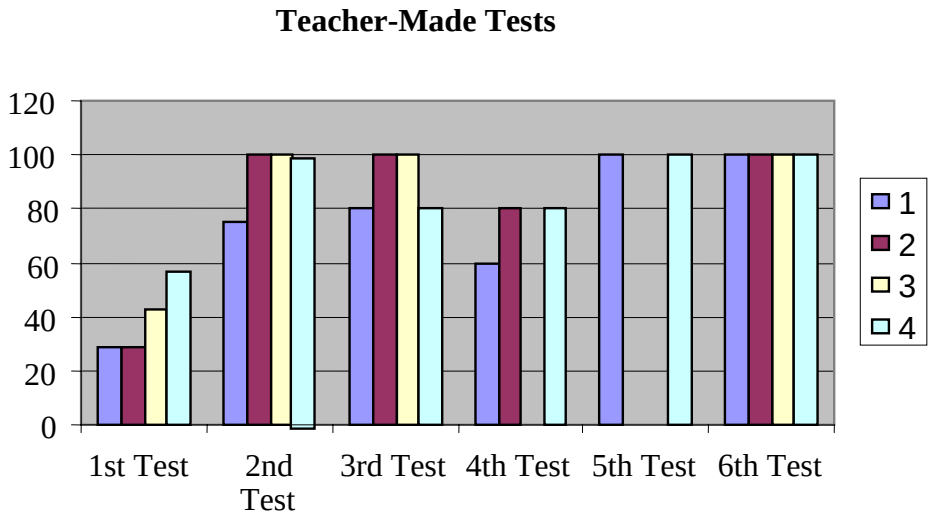

Figure 4. Students scores on teacher-made tests.

The oral reading fluency of each student rose from the pre-test, however, the retell score dropped. Most of the students were able to give an accurate retelling of the story, but did it with very few words. Retell comes from the student's understanding of the text he or she just read. Each word the student says is counted as long as it pertains to the story. If a student does not understand the text read, then the retell is going to be low. Unfortunately, the same is said for students who do not want to participate. Students seemed to be uninterested in completing this task, and I feel this graph shows that (see Figure 5).

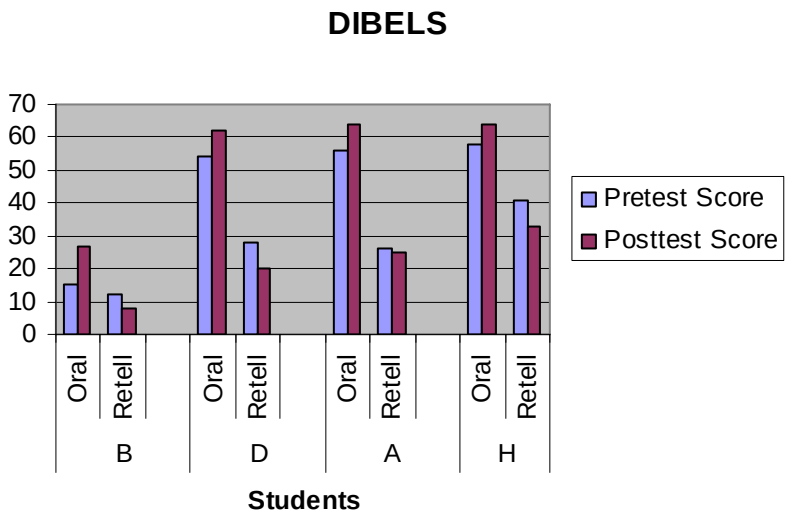

Figure 5. Oral ready fluency and retell results.

Overall, I believe that teacher-directed instruction was the best method used. There were many factors that would influence this. The students who participated in this research were at-risk students and had a harder time focusing than their peers. They were also some of the worst reading students in the class. During the peer-instructed strategy, the students would talk with each other, walk around, and fight over who was reading more. With the teacher-directed instruction, no one was fighting over who read more and

students were not up walking around. In addition, one specific strategy was taught. I feel that if more time was available to do this research, it would be more accurate. Students have to have a routine. Since this research method was different than their daily routine, it and took time to adjust to it. If the students had six weeks using each teaching strategy, the outcome may differ. The outcome might also change, based on the age of the student and the reading level of the student.

Conclusions and Recommendations

In concluding this research, I feel that more research is needed to test how effectively peer-assisted strategies work. Students enjoyed interacting with each other, and, I think, given more time, this strategy could work. The students would need a solid understanding of what is required from them and what experience they can gain from contributing 100 percent. According to the NEA Web site, www.nea.org, peer assisted tutoring is a viable option for teachers. The Web site suggests that students have guidelines to use to help keep them focused. I was unable to find a study cited by the NEA that shows either the increase or decrease of student achievement when using peer-assisted strategies. I believe that this research is very important because educators know that reading, and being able to comprehend what is being read, is extremely important. Comprehension techniques are valuable resources and I feel strongly that teachers have this as a workshop for professional development. Not all students learn the same way and sometimes students can explain a concept or technique in a way that another student can understand. They can put it in a simpler language or have it make sense some other way. It may even come down to one student not wanting to listen to a teacher but will agree to have another student explain it. When searching for grant money, I was unable

to find an exact match to my study, but I feel that if I were to look back through my research, I could find information that would help me to narrow my focus to an even greater extent and locate grant money. This would make a great proposal for the use of grant funds. I don't believe that technology, at this time, can assist with this particular topic. Technology can help students read and, maybe, by having a story read to them where they can follow along can help them read independently, but it has nothing to do with peer-assisted strategies or teacher-directed instruction.

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Use of Roles in Cooperative Learning Groups

Anita Forrest

Educ 590, Spring 2006

The University of Tennessee Chattanooga

The Institutional Review Board of the University of Tennessee at Chattanooga (FWA00004149) has approved this research project 06-079.

Introduction to the Problem

In a typical math classroom, students are often asked to participate in small, cooperative groups in order to perform a math investigation or activity. Many times, one student ends up doing the majority of the work, and all other group members get the same grade. At other times, one or more students may be totally disengaged in the learning process taking place within the small group setting. Sometimes, however, a student is willing to participate but may not have the necessary leadership skills to take charge of the small group, and, therefore, tends to play a minor role in the activity. This is bothersome to a teacher for this situation to occur.

Throughout education today, educators are looking for better ways to make instructional activities more effective and efficient. However, as all pupils are different, so, too, are their learning styles and abilities. Teaching students with this variety of styles and abilities becomes a very challenging task for even the best of teachers. Based upon my own love for learning and teaching, I plan to investigate this problem as it relates to the small group setting. As a teacher at a Title I school, it is very important to get all students involved in the learning process. The purpose of this research is to see how the use of roles in cooperative learning groups in the math classroom setting will affect the learning of those students involved.

Review of Literature

Current research suggests that students need a variety of different strategies to accommodate particular learning styles. Cooperative learning is a teaching strategy that can be used in any subject area and in any grade level to accomplish this feat. Much research has been done with cooperative learning groups. There is “power and

effectiveness" when students teach other students (Gunter, Estes, & Schwab, 2003, p.236). Results also indicate higher academic achievement, increased creative thinking, more willingness to deal with difficult tasks, improved individual learning, increased positive attitudes, and even improved student attendance (Cooperative learning in the science classroom, 2002). This theory is supported by several studies (Joubert, 2005; Mangan-Lev, 2005; Tanner, Chatman, & Allen, 2005).

Within the cooperative learning group, many particular strategies can be incorporated. When students are able to stay on task, the group gets the work done more effectively. According to Trowbridge, Bybee, and Powell, roles help to ensure interdependence, and they also encourage cooperation among group members (2004). Students need to also communicate to one another within the group. One way of ensuring that each group is on task and communicates what is necessary for success is to assign roles to each member of the group.

Research, regarding roles within a small group, shows each member of a group should have a specified duty to perform (Holt, 2005). Some of the tasks that can be incorporated into the cooperative group include facilitator, illustrator, spokesperson, and questioner. The facilitator is the person keeping track of time to ensure the task is completed within the allotted time and to ensure the group stays on task. A stopwatch could be provided for this student to increase the amount of kinesthetic learning. This person will also make sure that every voice has input. The illustrator writes down the ideas or answers on the group paper. This role provides a great opportunity for the kinesthetic learner, allowing for drawings to illustrate the thoughts of the group. The spokesperson will clarify the group's ideas and share the thinking of the group to the

class. This person is the only person in the group allowed to ask clarifying questions to the teacher about the assignment. The role of questioner is responsible for questioning group members by asking questions such as, “Can you show?,” “How do you know?,” “Is there another way?,” etc. This role helps get students to think on a deeper level.

Mangan-Lev (2005) suggests that students be grouped together by the attributes of the individual learners. The aim is for all students to learn the material. To accomplish this, it is necessary to determine the level of mastery among students and then assign groups to maximize achievement (Trowbridge et al., 2004). Each learner should be evaluated on learner skills, along with attendance, language skills, and learning styles. Gunter et al. (2003) suggest motivation, gender, and ethnicity as factors in determining groups. When students are allowed to choose teammates, friendships tend to determine team membership and many of the advantages of cooperative learning are lost .

Cooperative learning is not having one person do a report for two or three others (Trowbridge et al., 2004). This is why it is important to have assigned roles in order for all group members to participate. A single classroom in middle school is likely to contain students who can read and comprehend on very high levels, as well as those who aren’t achieving on grade level. This creates a very challenging situation in the regular educational classroom. A one-size-fits-all approach to education is probably not the best solution to ensure that no child is left behind in the learning process. Instead, differentiated instruction offers a variety of learning options designed to look at the different readiness levels, interests, and learning profiles of all students in the classroom (Tomlinson, 1995). As stated by Allan, “Teachers can’t assume they have 25 clones sitting in front of them. Without differentiated instruction, any child who varies from the

norm will suffer" (cited in Willis & Mann, 2000, p.1). Instead of teaching the curriculum just to get finished, teachers need to modify their instruction to meet the needs of the students.

In the Connected Mathematics curriculum (Lappan, Fey, Fitzgerald, Friel, & Phillips, 1998), it is very important that students are able to make those necessary connections between the activity and application. Differentiated instruction in this setting is one way of increasing the student's readiness, and provides a way to make the student feel successful. This approach is much different than previously taught. Differentiated instruction, through the use of roles, provides a necessary way to help meet the individual needs of each student in every classroom. Is it a challenge? Is it necessary? The results of student achievement are answer enough. We, as teachers, have got to take a step forward and look at new, interesting strategies that will help increase the learning of students.

Giving designated roles and differentiating the instruction will help students become more engaged by giving ownership. The assigned roles will help one another make connections in the math setting, as each student is a different type of learner and on different ability levels. These extra steps are not just extra work, but provide a purpose in helping students to achieve the most possible. By engaging students in the learning process, academic achievement should also increase. How will the two different groups of students fare against one another in overall academic achievement? Roger Johnson and David Johnson, co-directors of the Cooperative Learning Center at the University of Minnesota, put it best in these words, "School is a place where we work together to learn and share our ideas, argue our point of view, and help each other find the most appropriate answers and understand the materials. Sometimes we have a fun competition

and sometimes we work individually, but most of the time we learn together" (cited in Trowbridge et al., 2004, pg. 216).

Data Collection and Results

Data Collection

Subjects

The subjects of this action research will be inner city children attending a magnet school in Hamilton County, Tennessee. The majority of these students are from a low economic income background. Many of these students do not live with parents, but, instead, with a grandmother. Many of these students do not have active fathers or male role models in their lives. They live in government-subsidized housing in a very desolate area of the city of Chattanooga. There is some range in age, from 13 to 15 years old. There is some racial diversity, however, the majority of students, about 84%, are African-American. About 1% of the students are Hispanic, and the remaining 15% are Caucasian. Even though this is a magnet school, there are not many children that would fall into middle class society by most standards.

The students in seventh grade are all required to take math, which is aligned with state and national standards. At the current time, there are approximately 132 students in the 7^{th} grade at this middle school. There are equal numbers of boys and girls in the majority of classes. Our classes are on block scheduling so math is taught every day for 90 minutes.

Methodology

Pre-test of mathematical skills. A pre-test on geometry was given to students to determine prior knowledge. The pre-test consisted of angle measurements, types of angles, and similarity and scaling of figures (see Appendix A).

Post-test of mathematical skills. A post-test on geometry was given to students to determine the extent of learning after the unit was presented. This post-test was identical to the pre-test given at beginning of unit (see Appendix B).

Learning style assessment. With permissions, an intelligence assessment was given to students to determine what type of learning fit each student (Robbins, 2004). Students were then grouped according to learning style, but also by attendance and learner ability. For example, an inclusion (lower-level learner) student was always put in a cooperative learning group that had a higher-level learner.

Assignment of roles. Various roles were assigned within the cooperative learning group to see how this strategy affected higher level thinking within the math setting. I used one block of my students as the experimental group to break into small groups before a particular assignment and gave explicit differentiated instruction as to what was expected from each small group. The results of the assessment, along with learner ability, were used to place students in cooperative groups. Each team member was given a task in order to make everyone feel included in the learning that took place. Note cards were given on the day of the activity to remind students of their particular task.

Results

Results were compared with those small cooperative groups that had not been given the role assignment prior to the math activity versus those small cooperative groups that

had been assigned roles. The other class the control group, involved in the research was not given roles within the small group. This model was used over a period of 6 weeks.

Various assessments took place, including pre-assessments prior to the unit, exit slips on what students learned both cooperatively and independently during the math activity, independent and group evaluations, student work relevant to math investigations, post-assessment tests covering material from the unit, teacher observation/field notes, and hands-on activities of the assignment. Statistical data will compare pre- and post-assessment scores. In Figure 1, students with no role assignments are shown with pre-test and post-test scores. The change in score is also noted. In Figure 2, student scores are shown from those who received roles prior to cooperative learning groups.

Student	Pre-Test Scores	Post-Test Scores	Change in Score
1	45	70	+25
2	50	85	+35
3	35	70	+35
4	60	90	+30
5	75	95	+20
6	55	80	+25
7	40	75	+35
8	50	80	+30
9	20	65	+45
10	30	70	+40
11	40	80	+40
12	60	85	+25
13	65	85	+20
14	55	90	+35
15	40	85	+45
16	35	70	+35
17	60	85	+25
18	10	60	+50
19	10	55	+45
20	40	70	+30
Mean	43.75	77.25	+33.5

Figure 1. Results from students receiving no role assignments for cooperative learning groups.

Student	Pre-Test Scores	Post-Test Scores	Increase in Score
1	35	80	+45
2	25	75	+50
3	20	75	+55
4	60	100	+40
5	45	85	+40
6	35	85	+50
7	40	90	+50
8	55	95	+40
9	15	75	+60
10	50	95	+45
11	40	95	+55
12	30	85	+55
13	55	85	+30
14	25	80	+65
15	25	85	+60
16	35	80	+45
Mean	36.9	85.3	+49.1

Figure 2. Results from students receiving role assignments for cooperative learning groups.

As an active participant in the learning environment, the instructor also took field notes (Cooperative learning in the science classroom, 2002). Inclusion students were specifically looked at to see if the modifications made through the assignment of roles had increased their participation in the math activity. These students appeared to be more involved in the activity when a specific role was given. All students were involved in the learning process when working with a pre-assigned role, versus those students who were just placed within a group. Students with no roles were actually working more quickly with less depth. Often, these groups would disband, and students would end up working individually, or sometimes, not at all.

Using the evaluation forms, results were compared between the two groups to evaluate the engagement of the students within the group. Group evaluation forms (see Appendix C) from the students who had received roles prior to the activity indicated that,

100% of the time, everyone had contributed. This compared to only 25% of students feeling that everyone contributed in groups having no prior role assignment. Other observations from the groups with roles included students asking each other questions in terms of clarifying the content, encouraging each other, and helping each other. Students were being positive and no longer putting down one another. The majority of the students felt they listened to the teacher's instructions more frequently. Perhaps the most exciting result was the feeling from most groups that the work was shared equally.

Observations from the groups that had no role assignments indicated that, only sometimes, the work was shared equally. The majority of students said they were not positive and did not encourage one another within the group. The majority of the students were honest in saying they did not stay on task.

Individual evaluations (see Appendix D) were much the same as the group evaluations. Students with roles tended to evaluate more highly their ability to help within the group by being positive, helping one another, encouraging, and contributing to the success of the group. Those students who had no roles evaluated themselves as being sometimes encouraging, helpful, and positive. Only a couple of students rated their ability to contribute to the group on a high scale. A teacher observation/field notes form is included in Appendix E.

Conclusions and Recommendations

Conclusions

According to my research and my own professional development, I witnessed increased learning and further application from those who had received prior differentiated instruction using roles in cooperative learning groups. This increased

learning and application was reflected in post-assessment evaluations at the end of the unit study. Not all students were able to make a grade of "A" on their progress report, but individual scores were increased based on the student's ability. In addition, students were more engaged and excited about their own educational concerns, rather than just meeting the requirements of a 7th grader in the Hamilton County school system.

Through the use of an visual presenter (ELMO), students shared work more readily. An increase in the communication skills of the students involved with the assignment of roles in the cooperative learning group was also observed. Students were no longer reluctant to share thoughts about mathematical thinking. No longer was a thought considered to be unimportant because of the group mentality.

I believe there is a need for more professional development in this particular area. Most teachers are aware of cooperative learning, however, I feel strongly that more coaching could be done on how to be successful with this type of learning. Prior to this research, I did various types of grouping within the classroom. It was not until I assigned roles that I got the results anticipated from this type of strategy. Not only did I get better results as far as scores, but the majority of my students were excited to be working together. The classroom now has a climate of trust and partnership. This type of relationship is needed with all types of students, especially those in the inner-city setting.

Recommendations

This particular research project could and should be shared with both vertical and grade level teams to increase the engagement of students in all classes. Many classes do various types of group work. Perhaps the strategies utilized in this paper could help other colleagues in their areas of teaching. This could definitely have an impact on the culture

and climate of the school by increasing the engagement of students in the learning process through the use of roles in the cooperative learning groups.

Further work could be done based upon this particular research project. I would like to do more research on the effects of the inclusion student within the group setting. This has piqued an interest for me on how to differentiate and modify instruction for this particular group of students.

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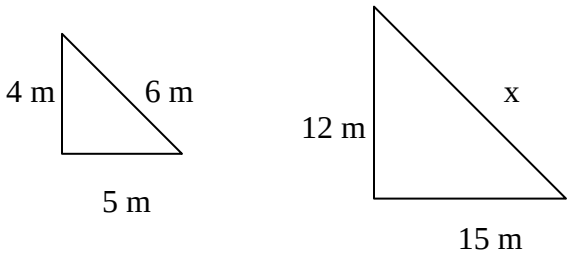
Appendix A
Pre-Test on Geometry

Name_____Date_____Block___

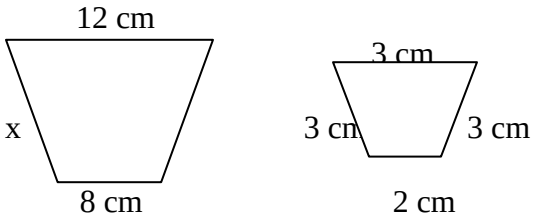
Pre-Test

Find the value of x in each pair of similar figures.

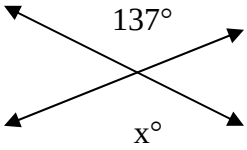
1.



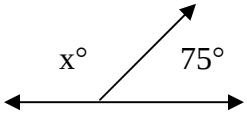
2.



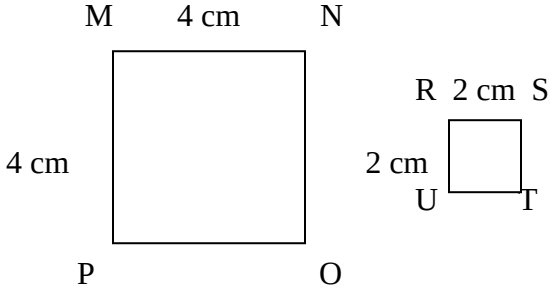
3.



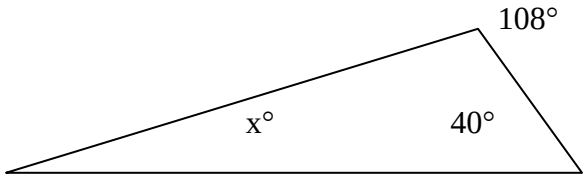
4.



5. If MNOP ~ RSTU, find the length of line ST.



6. Classify the angle whose measure is 45°. _____
7. Classify the angle whose measure is 90°._____
8. Congruent angles have the same _____.
9. Angle 1 and angle 2 are supplementary. If m∠1 =27°, find m∠2.
10. Find the missing measure in the triangle.



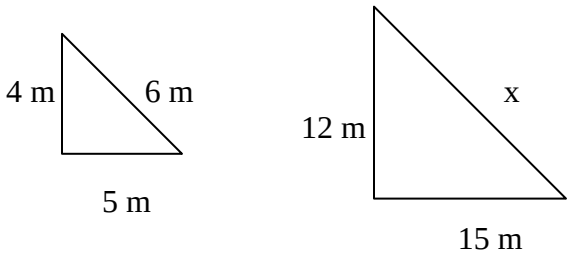
Appendix B
Post-Assessment on Geometry

Name_____Date_____Block___

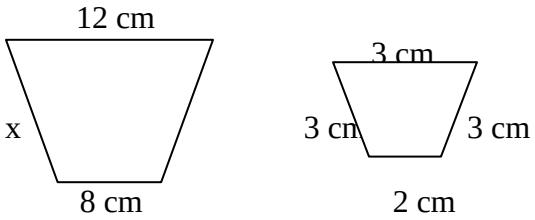
Pre-Test

Find the value of x in each pair of similar figures.

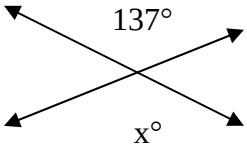
1.



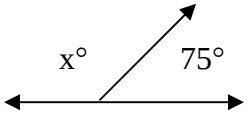
2.



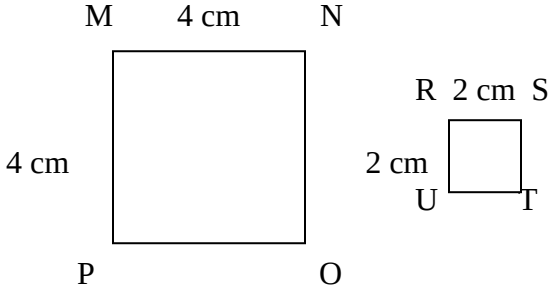
3.



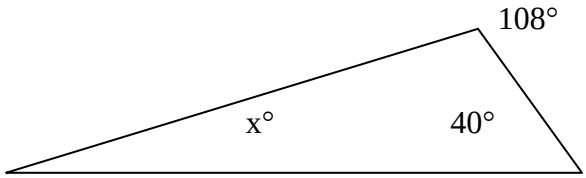
4.



5. If MNOP ~ RSTU, find the length of line ST.



6. Classify the angle whose measure is 45°. _____
7. Classify the angle whose measure is 90°._____
8. Congruent angles have the same _____.
9. Angle 1 and angle 2 are supplementary. If m∠1 =27°, find m∠2.
10. Find the missing measure in the triangle.



Appendix C
Group Evaluation

	Always	Usually	Sometimes	Never
1. Everyone contributes.				
2. We encourage each other.				
3. We ask each other questions.				
4. We share the work equally.				
5. We help each other learn.				
6. We stay on task.				
7. We solve our group's problems.				
8. We use "I" messages.				
9. We are positive.				
10. We listen to the teacher's instructions.				

Appendix D
Individual Evaluation

	Always	Usually	Sometimes	Never
1. I contribute ideas and information.				
2. I encourage others.				
3. I ask questions.				
4. I ask for help when I need it.				
5. I help other group members learn.				
6. I can keep the group on task.				
7. I make sure others understand.				
8. I use “I” messages.				
9. I am positive.				
10. I listen to the teacher’s instructions.				

Appendix E
Teacher Observation/Field Notes

Group member	Cooperative Skill	Observations

The Effects of Having 6th Grade Math Students Raise Their Hands to Decrease Excessive Talking

Julie Hallum

EDUC 598, Spring 2006

The University of Tennessee at Chattanooga

The Institutional Review Board of the University of Tennessee at Chattanooga (FWA 00004149) has approved this research project 06-021

Introduction to the Problem

Classroom management is something with which almost every first-year teacher struggles. As a new teacher, classroom management has been a challenge for me. Talking is one of the main problems I have had with managing my classroom. The problems occur when students are talking when I'm talking, when students are talking when another student is talking, or when students are supposed to be working independently and are talking among themselves. The focus of my research was to determine if having students raise their hands would decrease this "excessive" talking.

The literature that was reviewed mainly compared hand raising, choral responding, and response cards. The research comparing these three techniques, suggested which was the most effective for participation and on-task behavior. Since excessive talking is an off-task behavior, I assumed that if these techniques worked in the literature I reviewed to get students on-task then this research would address my topic.

Review of Literature

> Inattentiveness, overactivity, and impulsivity coupled with the preschooler's need for exploration and inquisitiveness, as well as common temper tantrums and moodiness, can present unique challenges to teachers of preschoolers. These characteristics result in the child's inability to persist adequately to accomplish a task, difficulty waiting their turn, blurting out answers, and constant motor movement (Godfrey, Grisham, Brown, Schuster, and Hemmeter, 2003, p.2).

Not only is this characteristic of preschoolers, but of middle schoolers, as well. Most middle school children with these tendencies are said to have ADHD. Since this condition is common, steps have to be taken to encourage these children to accomplish a

task, wait their turn, not blurt out answers, and to stay seated and still. Having children raise their hand attempts to decrease the acts of blurting out and waiting their turn.

The Godfrey et al. study compared response cards to hand-raising and found that response cards were more effective with on-task behavior. "Active responding involving the use of response card compared to the responding technique of hand-raising, has proven to be efficient in increasing on-task behavior with elementary students and students with moderate and severe disabilities and the acquisition of discrete academic skills with elementary students and secondary students" (Godfrey et al., 2003 p.7). The technique of hand-raising was effective, but based on this study, response cards were more effective.

A consistent finding of recent educational research is that student academic achievement is correlated with active student responding in the classroom (Narayan, Heward, Gardner, Courson, and Omness, 1990, p. 2). "Students learn by doing" (Narayan et al., 1990). Students seem to be spending the largest portion of the day, as much as 45% of available instruction time, passively attending to the teacher (Narayan et al.,1990, p.3). "Learning is enhanced when the frequency with the students actively respond during instruction is increased" (Gardner, Heward, and Grossi, 1994, p.2).

> "Active student involvement, when it does occur during teacher-led whole-group instruction, is often characterized by the teacher calling upon 1 student at a time to respond. Although this traditional method of having students raise their hands provides an opportunity for active response by the student who is called upon, all other students in the classroom are relegated to passive participation" (Narayan et al., 1990, p. 4).

This information suggests that students learn more with choral responding. When students respond chorally, they are participating and are doing something. This article suggested that hand-raising was a traditional method and that it was not very conducive to learning. It appears, though, that it does cut down on excessive talking. Choral responding gets students involved, but also allows for loud noise and confusion.

There is a need to develop tactics for providing every student in the class with many opportunities to respond during teacher-led, class-wide instructions.

> "Ideally, such methods for increasing active student response should be relatively low in cost (both in teacher time and in dollars), be easy to implement, be enjoyable for both students and teachers, be adaptable to various content areas, and produce better learning outcomes than the instructional procedures they are to replace" (Narayan et al., 1990, p. 5).

Having students raise their hand is one of the least expensive tactics to implement. It is free, it is adaptable to various content areas, and it is easy to implement. There just needs to be a way to implement a strategy that allows every student the opportunity to respond during teacher-led, class-wide instruction.

The Narayan et al. study collected data by analyzing how high the hand was raised and the frequency with which the student was called upon when raising their hand.

> "During hand-raising sessions, a student response was counted whenever a target student raised his or her hand at least head high and answered orally when called upon by the teacher. (During hand-raising sessions, data were also recorded on each target student's rate of hand-raising, whether or not he or she was called on to answer the question)" (Narayan et al., 1990, p. 10).

Prior to doing the experiment, the teacher had a training session that took 20 minutes.

> "Using a science lesson, the teacher trained the students on the correct procedure for raising their hands and responding to her questions. Both observers were present and practiced recording the responses of the target students. During the hand-raising condition, the teacher waited 3 s after asking a question before calling upon an individual student whose hand was raised" (Narayan et al., 1990, 19).

The teacher in this study had the students names listed randomly for calling on them to answer questions. If the student whose name was next to answer a question did not have his/her hand raised, the teacher went to the next name on the list until she came to a student whose hand was raised. This random way of calling on students gave more students an opportunity to respond. Also, by waiting 3 seconds, students had more time to process the question and more time to think about their answer. This created more students with their hand raised.

The Narayan et al. study also provided students with verbal praise, and corrective feedback for incorrect answers. "Feedback statements were controlled so that all students always heard the correct answer twice"(Narayan et al., 1990, p. 20). The flaws of using hand-raising alone, which was uncovered in this survey, was that "because only 1 student at a time actively responds during a traditional hand-raising procedure, the teacher has no objective information about the ability of other students to respond correctly to the question or problem being presented"(Narayan et al., 1990, p. 34).

The Gardner et al. study (1994) discovered that, when students were academically engaged during instruction, the level of achievement increased. The Davis and O'Neil

study also found this to be true. "Active student responding is a critical component of effective instruction in classroom settings" (Davis and O'Neil, 2004, p. 2). Hand-raising gets students to participate. In both the Narayan et al. (1998) and the Gardner et al. (1994) studies, the teacher waited 3 seconds after asking each question before calling on an individual with their hand raised. This period of wait time gives students a chance to dwell on the question and to provide more in-depth answers. This also gives the lower-achieving students more time to process the question and to think about the answer. The downside to using the strategy of hand-raising, found by the Gardner et al. study, was that only the higher-achieving students raised their hands. There were few to no responses made by the lower-achieving students. Even though there was a period of wait, lower-performing students did not raise their hands as frequently as the higher-achieving students.

> The primary dependent measures in the Davis study were:
>
> "(a) percentage of trails with questions to which students made an academic response (written or verbal) during hand-raising and response card conditions, (b) percentage of correct academic responses, (c) percentage of trails with questions to which students responded by raising their hands (only recorded during hand-raising conditions), and (d) percentage of trails with questions with off-task behavior (students did not produce an academic response and were engaged in other disruptive behavior such as talking to their neighbor)" (Davis and O'Neil, 2004, p. 4).

This study recorded data by observing the teacher ask a question, then recording whether or not the student raised their hand, whether or not the student made a verbal or written

response, whether or not the response was correct, and whether or not the students who were not responding were engaged in off-task behavior (talking out, talking to a classmate, or playing with an object). Students were called upon as randomly as possible. After the students responded, the teacher provided verbal praise or corrective feedback, as needed, while she wrote the correct answer on the overhead projector.

> "During the hand-raising phases, students received one bean in a jar for raising their hands and an additional bean if they were called on and responded correctly. Full jars resulted in a student receiving a candy bar or soda, and filling a predetermined number of jars resulted in the class receiving a class activity or field trip" (Davis and O'Neil, 2004, p. 6).

This study demonstrates an example of positive reinforcement and a reward for not only participating by raising one's hand, but for thinking through the question and trying to answer the question correctly.

The Davis and O'Neil (2004)study also conducted a six-question questionnaire after the completion of the study to determine whether the students preferred hand-raising or response cards, and which approach they felt best facilitated their participation and learning. The results of this study showed that the students performed better academically when using response cards as opposed to hand-raising. "However, social validity data indicated that all but 1 of the students preferred the hand-raising condition. Their questionnaire responses indicated that this was mainly due to the burden of having to write their responses to questions" (Davis and O'Neil, 2004, p. 8). It is a proven fact that students who are LD or ESL, or have ADD/ADHD have trouble writing responses. I

believe that the method of hand-raising helps eliminate any obstacles that might hinder the response of these learners.

Data Collection and Results

Research Questions

- What are the effects of having students raise their hand on excessive talking?
- Does having a rule that states students should raise their hand decrease excessive talking?
- Do students have a consequence when they do not raise their hand?
- Do students have an incentive to raise their hand?

Methods

- Teacher surveys.
- Student surveys.
- Observations of student and teacher behavior.

Data Analysis

The methods used to collect data yielded these results:

Teacher surveys. Six teachers answered my survey questions (see Appendix A).

Question 1: Do you have a rule for students to raise their hand?

All six teachers said yes. One teacher commented that she also indicates when she wants the students to respond aloud, without raising their hands.

Question 2: Do most of your students follow this rule?

Five out of six responded “yes.” One teacher said “no”.

Question 3: When students follow this rule, is excessive talking decreased?

All six teachers responded “yes.”

Question 4: Do students have an incentive to raise their hand?

Four out of six replied “yes.” They listed incentives as they learn more, give verbal praise, to be heard, and pioneer points. Two out of six responded “no”. One of the teachers said that “it was just an expectation.”

Question 5: Do students have a consequence when they do not raise their hand?

Five out of six said “yes.” The consequences were verbal warning, ignore them, a writing assignment if problem persists, and silent lunch. The teacher who said “no” wrote that she just reminds students to raise their hand.

Student surveys. Surveys from 27 students were used in this research (see Appendix B).

Question 1: Do you have a rule to raise your hand?

Twenty-five students said “yes.” Two stated that the rule was to “raise your hand before speaking.” One child responded, “It is polite.” One student said “no.” One student responded “sort of.”

Question 2: Do you follow this rule regularly or most of the time?

Fifteen students responded “yes.” Nine students responded “no.” One student said, “Most of the time.” Two students said, “Sometimes.”

Question 3: Is there a reason to follow the rule?

All 27 students said that there was a reason to follow the rule. Reasons listed varied. Some of the reasons were “so no one gets in trouble,” “so we don’t play around,” “so we will be good,” “people won’t always blurt out,” “so you won’t get in trouble,” “so everyone won’t be talking at the same time,” “so that the teacher can understand us,” “to show respect,”

"following the rules is the right thing to do," "because it's part of the rule to follow," "because it stops so much talking in class," "so we won't blurt out," "so I won't get in trouble," "so everyone gets to answer," "so the class won't get louder," "to show you have manners," "because if you don't, there will be chaos in the class," "so people don't interrupt other people," "people all talking at once makes it hard to understand," and "because there are others who want to learn."

Question 4: Is there a punishment for not following the rule?

Eighteen students said "yes." Punishments listed were silent lunch, move from seat, stand in corner, office referral, write sentences, "it depends," name written on board, sent to assistant principal's office, or sent to ISS (in school suspension). Five students said "no." Four students said "sometimes."

Question 5: Do you think talking is decreased when students are raising their hand?

Twenty-one students said "yes." Five students said "no." One student said both. The students who answered "no" or both did not give a reason for answering the question this way.

Observations of student and teacher behavior. For five class periods (1 hour each) (see Appendix C).

Class period number 1 observation: 3/6/06

Number of times students raise hands: 2.

Number of times students speak out without raising hands: 7.

Number of times students get reprimanded for speaking out without raising hand: 3.

Number of times students get rewarded for raising their hands: 1.

Class period number 2 observation: 3/8/06

Number of times students raise hands: 18.

Number of times students speak out without raising hands: 20.

Number of times students get reprimanded for speaking out without raising hand: 10.

Number of times students get rewarded for raising their hands: 6.

Class period number 3 observation: 3/9/06

Number of times students raise hands: 8.

Number of times students speak out without raising hands: 10.

Number of times students get reprimanded for speaking out without raising hand: 7.

Number of times students get rewarded for raising their hands: 4.

Class period number 4 observation: 3/10/06

Number of times students raise hands: 9.

Number of times students speak out without raising hands: 12.

Number of times students get reprimanded for speaking out without raising hand: 7.

Number of times students get rewarded for raising their hands: 3.

Class period number 5 observation: 3/14/06

Number of times students raise hands: 21.

Number of times students speak out without raising hands: 11.

Number of times students get reprimanded for speaking out without raising hand: 8.

Number of times students get rewarded for raising their hands: 2.

Conclusions and Recommendations

After careful evaluation of my research, I have discovered that children *want* to have a rule in the classroom that states that they must raise their hand before talking. Students understand the importance of this rule and see the significance it has on learning. The problem lies with the teacher. After doing my research and asking questions, it seems like there is an inconsistency among staff about how it is addressed in the classroom and an inconsistency in the classroom with individual teachers. They have a rule, but they are not consistent with having the students follow it. The students showed this to be true in their surveys and it was obvious in the observations done in the classroom.

I know that it will be hard to make this a habit as a first-year teacher, but it has to be done. Having this rule improves morale in the classroom, makes it easier for students to understand the lesson, makes it clear to the teacher what the students' responses are, and cuts down on excessive talking. This will help keep the class focused on learning and provide a safe learning environment for all learners.

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Appendix A

Teacher Survey

1. Do you have a rule for students to raise their hand? Yes or No

2. Do Most of your students follow this rule? Yes or No

3. When students follow this rule, is excessive talking decreased? Yes or No

4. Do students have an incentive to raise their hand? Yes or No
   If so, what?

5. Do students have a consequence when they do not raise their hand? Yes or No
   If so, what?

Appendix B

Student Survey

1. Do you have a rule to raise your hand? Yes or No

2. Do you follow this rule regularly or most of the time? Yes or No

3. Is there a reason to follow the rule? Yes or No
   If so, what?

4. Is there a punishment for not following the rule? Yes or No
   If so, what?

5. Do you think talking is decreased when students are raising their hand?
   Yes or No

Appendix C

Classroom Observation Sheet

Number of times students raise hands:

Number of times students speak out without raising hands:

Number of times students get reprimanded for speaking out without raising hand:

Number of times students get rewarded for raising their hands:

The Effects of Standardized Testing on Classroom Curriculum

Carrie B. Hazlewood

Education 590, Spring 2006

The University of Tennessee at Chattanooga

The Institutional Review Board of the University of Tennessee at Chattanooga
(FWA00004149) has approved this research project 06-101

Introduction to Problem

I selected the topic of the effects of standardized testing for a number of reasons. However, most prevalent in my mind is in what great regard standardized tests affect the classroom, and, in particular, what an impact they are having on the curriculum teachers are presenting. I have seen a great change in the curriculum students are experiencing due to the high level of accountability today's teachers are facing. This issue is something that is affecting the nation as a whole, especially since the legislation of No Child Left Behind.

Review of Literature

In reviewing literature on standardized testing, I found that pressure on teachers due to tests, abound. These tests not only affect curriculum, but also affect the vision of teaching, morale, accountability, and stigmas.

Hammerness (2004) studied the experiences of a teacher who recently moved to a school in Massachusetts that "she felt would be more consistent with her own visions of good teaching" (p.33). However, at the same time, the Massachusetts Comprehensive Assessment System was being put into place as a result of the Massachusetts Educational Reform Act of 1993. This teacher's experience demonstrated how the state and national context played a significant role in her classroom. She found her vision as a teacher at odds with the state context, challenging her confidence as a teacher and her vision for her students, and caused her to question her ability to enact what she envisioned as a good teacher. These tests forced her to change her strategies of teaching science, in particular. She felt she had to concentrate on the content, rather than the process. She put aside thematic units and revised her curriculum to learn more of the content of the tests. She

felt tests focused on “random concepts” that contradicted the ways in which she was trying to give her students an appreciation of the field of science.

Abrams, Padilla, and Madaus (2003) surveyed over 4,000 teachers and concluded that their statewide testing program, regardless of if they were high, or low-stakes, had led them to teach in ways that go against their own beliefs about good educational practices.

Pahl’s (2003) concern for standardized tests is the reliability and validity of the means by which government personnel believe they are improving educational achievement. He faults these tests for the high correlation between the socioeconomic status of a community and the test scores. He poses that the politicians “jumped on the band wagon of assessment as an easy way to answer the public’s concern for education” (p. 212). The political answer for these problems was testing. However, these tests were put into place without examining or solving the underlying issues in our schools.

Linn (2000) suggests that standardized tests are given because testing programs can be implemented more rapidly and inexpensively than changes in instructional time or reducing class sizes, which would ultimately be much more effective.

Lin (2002) suggests that standardized testing is built on a traditionalist perspective to train the mind, emphasize subject matter, and “fill” the learner with knowledge and information. She states that current learning theory suggests that these approaches are not always appropriate. Lin states that “testing emphasizes the instrument’s predictive power while assessment stresses its content validity of an approach or this ability to describe the nature of performance that results from learning” (p. 44).

Lin also suggests that standardized tests narrow the curriculum. She states that this happens when teachers concentrate their teaching on information students will be responsible for on the test. According to Lin, teachers feel obligated to set aside other subjects and focus on boosting test scores. This results in " a system of education that reduces student learning to scores on a single test, rules out the possibility of discussing learning in terms of cognitive and intellectual level, growth, social awareness and social conscience, and social and emotional development" (p. 45). Lin concludes that schools need an assessment model designed to produce "thinking curriculum" in which students are able to learn in many domains.

According to Madeja (2004), standardized testing encourages the development of tests that are empirically- based, testing knowledge of elements and principles rather than strategies that measure expressive outcomes. Madeja reports that a teacher in Missouri stated that state and local assessment is having a significant effect on curriculum development, including what content is presented and which disciplines are taught.

Whitaker (2004) suggests that assessment is essential of the cycle of learning, but excessive standardization narrows content and restricts schedules, leaving little time for meaningful learning and accountability. According to Whitaker, standardized tests

> distract us from pursuing the goals research has demonstrated that lead to sound educational experiences for all early childhood intervention, small classes and schools, highly skilled and committed teachers, and on ongoing cycle of seamlessly integrated learning and assessment that supports student development. (p. 271)

Murrillo and Flores (2002) report that a study was done on an art-based educational reform effort in North Carolina, called the A+ schools program, and provided an opportunity to study how high-stakes testing can stigmatize and demoralize change agendas. Murrillo and Flores state that studies have shown that, under high-stakes testing, teachers experience more stress and lower morale, and are more likely to abandon low-performing schools. In an interview done by Murrillo and Flores, a teacher reported that testing caused teachers to "teach basics and throw out the arts." Another stated that "we are making a difference but maybe not in the most measurable ways that the state is looking for. Our role and value as a teacher had diminished" (p. 94). According to Murrillo and Flores, high-stakes tests measure only a very limited range of skills, in contrast to what is taught in the classroom. Also suggested is that these tests have forced teachers to waste instructional time on the transmission of limited, impractical test-taking skills, or simply "teaching to the test." Murrillo and Flores also found that teachers sacrifice nontested aspects of the curriculum.

Data Collection and Results

Data Collection

A survey was given to 20 teachers in an urban school in Chattanooga. Fifteen of the surveys were returned. Teachers were asked to respond, on a scale of 1 (low) to 5 (high), to statements regarding the effects of standardized testing.

Results

The results of the survey were what I expected. Ten of the 15 respondents answered that they strongly agree with Statement 2, I use state testing guidelines as curriculum guidelines. I was surprised that six of the respondents answered that they

moderately disagree with the Statement 4, I teach to the test. The mean of 5.0 of Statement 15 indicates that, although the teachers feel stressed, and pressured to quickly cover material in order to fit it all it, they continue to present test material in an enriching and creative manner. Survey results are presented in Figures 1 and 2. Survey questions are presented in Appendix A.

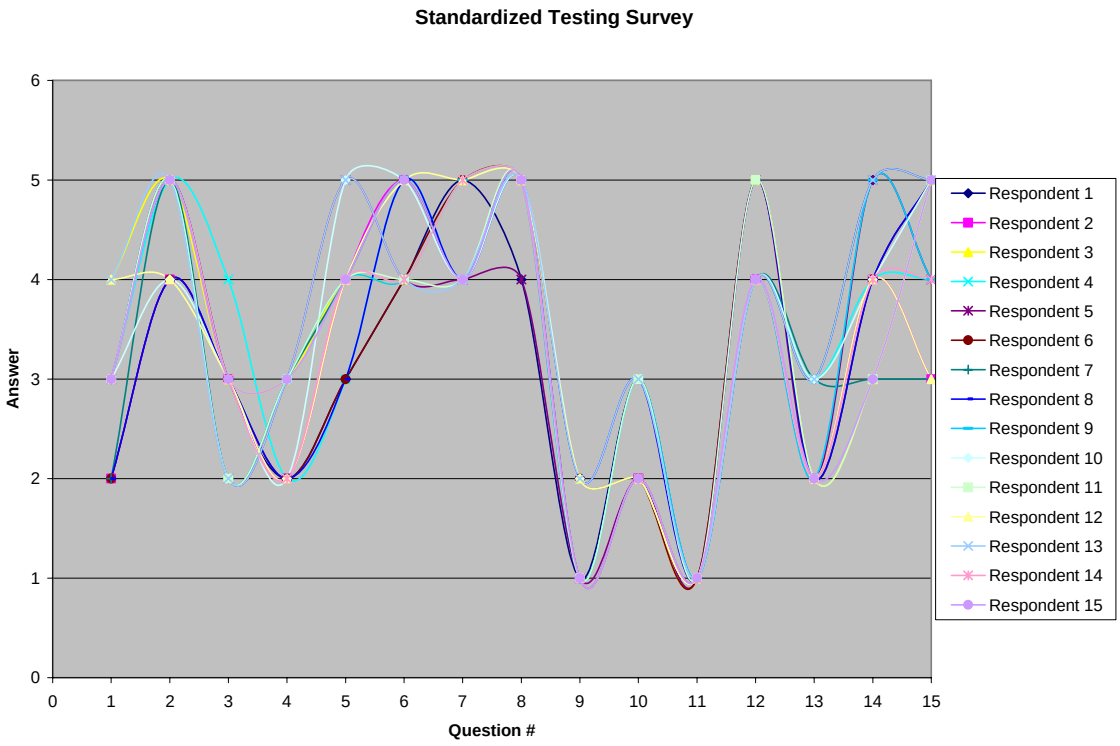

Figure 1. Standardized testing survey

Question #	Mean
1	2.8
2	4.5
3	2.8
4	2.6
5	4.0
6	4.6
7	4.6
8	5.1
9	1.9
10	2.9
11	1.6
12	4.8
13	3.0
14	4.6
15	5.0

Figure 2. Mean Responses

Conclusions and Recommendations

Based on the results of the survey, I believe that standardized testing has a profound effect on teachers. Not only do they feel stress because of the tests themselves, but they also feel pressure to fit in all the test material, leaving out other non-tested material such as art. This is an issue that will continue to affect classroom teachers. Unfortunately, standardized tests are not going to go away. However, as teachers, we can hope that a better system of assessment is put into place, and we must hold onto our firm beliefs in providing an environment in our classroom that engages and encourages learning, regardless of the testing that goes on outside of our control.

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Appendix A
Effects of Standardized Testing on Classroom Curriculum

After each statement please circle the appropriate response.
5-strongly agree, 4-moderately agree, 3-agree, 2-moderately disagree, 1-disagree

1.	My teaching strategies have changed as a result of high emphasis on standardized testing.	5 4 3 2 1
2.	I use state testing guidelines as curriculum guidelines.	5 4 3 2 1
3.	I spend time in my classroom on building test taking skills.	5 4 3 2 1
4.	I teach to the test.	5 4 3 2 1
5.	I focus on using enrichment activities that also follow testing guidelines.	5 4 3 2 1
6.	I spend less time on art and non-tested activities.	5 4 3 2 1
7.	I feel stress because of standardized testing.	5 4 3 2 1
8.	I feel too much emphasis is placed on testing.	5 4 3 2 1
9.	I believe standardized tests should be used as a form of teacher accountability.	5 4 3 2 1
10.	I feel the curriculum is too wide and not deep enough.	5 4 3 2 1
11.	I feel I have adequate time to cover all the curriculum that is tested.	5 4 3 2 1
12.	I feel pressured to quickly cover material in order to fit it all in.	5 4 3 2 1
13.	I tend to teach only material I know will be tested.	5 4 3 2 1
14.	I notice my students feel stressed by standardized tests.	5 4 3 2 1
15.	I present test material in an enriching and creative manner.	5 4 3 2 1

Better Questions in the Science Classroom

Jason C. Kibler

Education 590, Spring 2006

The University of Tennessee at Chattanooga

The Institutional Review Board of the University of Tennessee at Chattanooga (FWA00004149) has approved this research project 06-041.

Introduction to the Problem

The purpose of this research is to better understand and apply different questioning strategies in an eighth-grade science classroom, with the hope of improving overall understanding and increasing broader conceptualization for every student in the class. My plan was to look at questioning techniques and increase wait time after all questions and responses. I also kept track of the number of divergent and convergent questions I asked the students in a given class period. My goal was to also incorporate higher-order thinking questions in to my lesson plans. Finally, I looked at the change in flow of my classroom by adding this extra time for the students to think after every question and response.

Review of Literature

There has been numerous research done on improving the efficiency of questions in all educational settings. A “given” in this process is for the teacher to incorporate these questions into the actual lesson plan, as opposed to spontaneously coming up with questions on the spot, to judge understanding of the material. Usually, this kind of questioning only scratches the surface of actual student knowledge, which results, most often, in merely factual responses that get answered quickly, and with little to no thought involved. These types of questions do not promote critical thinking skills and are just a product and perpetuation of rote memorization. It is obvious to every educator that there is a direct correlation to the amount of time and thought put into planning a lesson and the success that lesson will have in the classroom setting.

A teacher who wants to incorporate good questioning techniques should look at using a taxonomy as a template for writing questions (Gilbert, 1992).

A taxonomy is a series of categories used for organizational purposes. There are many types of models that have been developed over the years, probably the most widely-recognized would be Bloom's taxonomy of educational objectives in the cognitive domain. Less known would include John Penick's HRASE, which begins by taking into account, and first tapping into, the student's previous experiences and history (Penick, 1996). Whatever the system used in planning, it will increase higher-level thinking skills in students if the teacher gives more thought and preparation in the planning process. Other strategies that can be incorporated to get more from a teacher's questions include wait-time, listening, and number of divergent versus convergent questions.

A very interesting strategy is wait-time (Rowe, 1986), which is the amount of time a teacher pauses directly after asking a question. This gives everyone in the class time to process what has been asked and to formulate detailed responses. Wait-time is very useful when asking higher- order thinking questions. Student teachers in middle and high school science classrooms in New York State observed that, with little or no wait-time, answers were short and poorly developed (Freedman, 2000). When wait-time was increased, students were able to articulate their answers and fared greatly with their responses. Giving students time to process the question and formulate a response allows everyone in the class a chance to participate and interact in class discussions. Not only should wait time be used directly following a question, it should also be used directly after a student response. This technique of slowing down the class tempo will give most every student time to cognitively process and analyze the response, not to mention time to reevaluate what the question was. By having time built into the lesson for students to

think, this will enable students to have more time to clarify their thoughts and increase involvement in the class discussion process.

Teacher questions are frequent, pervasive, and universally the cornerstone of an effective science classroom. The number of teacher questions per hour varies greatly on the activity type and the teacher subject-matter knowledge. Lecture sessions tend to be the highest rank, with respect to amount, leading at around 82 questions per hour (Roth, 1996). Teachers ask questions to bring about student explanations, for expanding on previous answers or ideas, and, especially in the science classroom, to make predictions about an outcome or an event, usually referred to as the hypothesis. Good questions provoke thought, and are based in the student's own experiences and enable the student to apply critical thinking skills to solve the problem (King, 1994). Using good questioning techniques should be a goal for any teacher who would like to improve his or her efficacy in the classroom setting. We all, at some point in our teaching career, have fallen into the dark hole of asking short, single-answer questions. Upon receiving that answer, we believe that everyone in the class is learning and grasping the deep concepts involved, only to move to a different topic and teach the exact same concept again, from scratch. For students to truly understand, and then apply like concepts to new material, involves better questioning on the teacher's part.

Data Collection and Results

Data Collection

Subjects

My subjects consisted of an average-performing, eighth-grade class in Hamilton County, Tennessee. The school is in a fairly low socioeconomic class, with 48 % of the students receiving free and reduced lunch. It has ethnicity percentages of 49% white,

49% black, and 2% other, with a growing Hispanic population. In the community, ethnicity is separated geographically. The average age of my students is 14 years old, with a small percentage 15 and 16 years old. Each year, about 8 percent of my students are repeating 8th grade. Class size can vary anywhere from 18 to 26 students per class. I chose my one class as my experimental group, consisting of 18 students. Each of the students had the option to participate in the study, with no penalty held against them if they chose not to participate. I had 100 percent participation by the students and parents of this particular class.

Time Frame

Collected data from my class for 5 days in a week-and-a-half time period. Each class period consisted of an 80-minute block, 4 days per week.

Methods/Procedures

I began my research with a survey for the students to find out some information about how they initially feel about questions and the way they are presented in my class (see Appendix A). The results of that survey are also listed (see Appendix B). I then made sure that I took time and entered at least three critical thinking questions in my lesson plans. During class discussions and lectures, I attempted to increase wait-time to at least 4 seconds for myself, and the entire class whenever a question was asked during this time frame. I used audiotapes so that I could go back over the lessons to see how effective I was at slowing down the tempo of the class. After each lesson, I would go back through the tapes and fill out a log sheet as I listened to each of the tapes (see Appendix C and Appendix D). One of the tallies I did on the log sheet was to count and keep track of the

number of convergent and divergent questions I asked the class. On the log sheet, there is also a place for me to record my thoughts and observations on the flow and effectiveness of the change in format. I was also able to have a peer observer for part of a class period, and was able to get some feedback on the research and methods I was attempting to implement in my class. Due to time constraints and scheduling this late in the year, I was only able to audiotape my experimental group five times.

Results

The students were a little hesitant about being taped the first day, but it appeared they soon forgot as the week continued. I have listed a chart of the results (see Appendix C). The wait-time issue was a bigger deal than I thought it would be, initially. I really had trouble on the first day, changing my tempo so dramatically. For some of the questions I asked, I did not have the proper wait-time after the question was posed. The students also had a difficult time on the first day. I was not aware how chaotic some of my lectures and discussions can be. After a student would respond, it was difficult to allow that pause before another student just blurted out something else. I was very strict with my students that first day so they did improve as the week continued.

Wait-time

For the entire 5 days, during lectures and class discussions, I asked a total of 126 questions, with an average of 25.3 per day. Out of the 126 total questions, I had 105 questions that had the proper 4 seconds or better wait-time, with an average of 21 per day. Student responses with the proper wait-time were not as high. There were 90 responses, with the proper student wait-time out of a total of 126 questions asked by myself.

Divergent Questions

The most time-consuming aspect of my research plan was developing the three critical thinking questions for each lesson. I also found that all of the critical thinking questions were divergent in nature. Out of the 126 questions asked in the 5-day period, 37 were divergent, with an average of 7.4 per day. I must also point out that these were questions that were the hardest for the students to answer, and took a considerable amount of time in class for the students to get the correct answer. These types of questions promoted higher-order thinking on the part of the students. I did notice some students would interest in the answer, or just shut down, when they realized it was going to require thinking.

Convergent Questions

Most of the questions asked in my lectures and discussions seemed to be convergent questions. These were typically asked to get feedback or measure comprehension from the students. Out of the total 126 questions posed to the students, 89 were convergent in nature, with a daily average of 17.8 questions. The convergent questions did not take up much time in class and the students answered them fairly quickly. Consequently, the convergent questions were more difficult in using the proper wait time. I also felt these questions affected the tempo of the class a lot more.

Conclusions and Recommendations

Conclusions

I must admit changing the format and tempo of my lectures and discussions seemed very odd and uncomfortable during the first couple of days. I really feel this was an effective exercise in creating better comprehension for the students, as well as

enabling me, the instructor, to take a serious look at my teaching style. Creating wait-time in the classroom is an extremely effective teaching strategy that makes good, logical sense. We know that not every child in the class processes material the same way or at the same speed. So, when teachers ask questions for whatever reason, why only get feedback from the student that is able to process the information the quickest. Everyone in the class needs time to register the question and analyze it so that every child in the class can participate and succeed.

Recommendations

We, as educators, need to do a better job of planning when it comes to questions that we will be asking our students. Divergent questions need to be used a little more in the regular classroom settings to promote higher-order thinking skills in our schools. Until teachers start seriously looking at strategies in their own classroom, and how effective and beneficial those strategies are for our students, test scores will remain low. Implementing new strategies on a regular basis will require monitoring by administration, and positive feedback from peers and other educators, if they are going to be successful.

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Appendix A

Action Research Student Survey

1.) How many questions do you think your science teacher asks in class during a single block class?
a. Less than 10 b. 10 – 20 c. 20 – 30 d. 30 – 40 e. more than 40

2.) How many questions do the students ask in a given single block class?
a. Less than 10 b. 10 – 20 c. 20 – 30 d. 30 – 40 e. more than 40

3.) How important is it for the teacher to ask the students questions in class?
a. No importance b. little importance c. medium importance d. very important

4.) How important is it for the students to ask the teacher questions in class?
a. No importance b. little importance c. medium importance d. very important

5.) Why do students ask questions in class?

6.) Why do teachers ask questions in class?

7.) Does it ever seem like the teacher is going to fast when he is asking a series of questions?
Yes or No

8.) Do you feel like you have enough time to think when a teacher asks a question out loud in class? Yes or No

9.) Do other students beat you to the answers when questions are being asked out loud in class? Yes or No

10.) Do you think the types of questions being asked will influence how well you learn the
material? Yes or No

Appendix B

Results of Survey

1.) How many questions do you think your science teacher asks in class during a single block class?

a. less than 10 b. 10 – 20 c. 20 – 30 d. 30 – 40 e. more than 40

Results a = 0 b = 9 c = 8 d = 1 e = 0

2.) How many questions do the students ask in a given single block class?

a. less than 10 b. 10 – 20 c. 20 – 30 d. 30 – 40 e. more than 40

Results a = 5 b = 9 c = 4 d = 0 e = 0

3.) How important is it for the teacher to ask the students questions in class?

a. no importance b. little importance c. medium importance d. very important

Results a = 0 b = 4 c = 8 d = 6

4.) How important is it for the students to ask the teacher questions in class?

a. no importance b. little importance c. medium importance d. very important

Results a = 0 b = 3 c = 4 d = 11

5.) Why do students ask questions in class?

Most every student said something to the extent so that they can understand.
Two students said to clarify the information

6.) Why do teachers ask questions in class?

All students said to check for understanding

7.) Does it ever seem like the teacher is going to fast when he is asking a series of questions?

Yes or No

Results Yes = 6 No = 12

8.) Do you feel like you have enough time to think when a teacher asks a question out loud in class. Yes or No

Results Yes = 11 No = 7

9.) Do other students beat you to the answers when questions are being asked out loud in class? Yes or No

Results Yes = 13 No = 5

10.) Do you think the types of questions being asked will influence how well you learn the
material? Yes or No
Results Yes = 16 No = 2

Appendix C

Daily Log Sheet
Taken from audio tapes of class

1.) How many questions were asked by the teacher to the students in the class?

2.) List the number of each type of question
Divergent Question = Convergent Question =

3.) How many of those questions had the 4 seconds or more of wait-time?

4.) How many of the student responses had the proper amount of wait time after an answer

5.) Based on my judgment, how was the flow and tempo of the class?
Excellent Good Fair Poor

6.) Based on my judgment, how did students adjust to the flow and tempo of the class with additional wait-time?
Excellent Good Fair Poor

7.) In the investigators opinion, did the additional wait-time allow students to process the information of both questions and responses more efficiently?
Yes or No

8.) Other comments form investigator:

Peer observer when applicable

9.) How would you rank the overall flow and tempo of the class with the added wait-time
Excellent Good Fair Poor

10.) In the observer's opinion, did the additional wait-time allow students to process the information of both questions and responses more efficiently? Yes or No

11.) Other comments from peer observer:

Appendix D

Results of Daily Log

	MON 4/10	**TUE 4/11**	**WED 4/12**	**THUR 4/13**	**MON 4/17**
Question 1	23	19	31	22	31
Question 2	8 div/ 15 con	4 div/ 15 con	11 div/ 20 con	8 div/ 14 con	6 div/ 25 con
Question 3	14	16	27	20	28
Question 4	8	14	25	18	25
Question 5	Poor	Fair	Good	Good	Good
Question 6	Fair	Fair	Good	Good	Good
Question 7	Yes	Yes	Yes	Yes	Yes
Question 9					Good
Question 10					Yes

Classroom and Behavior Management

Stephanie R. Laymon

Education 590, Spring 2006

The University of Tennessee at Chattanooga

The Institutional Review Board of the University of Tennessee at Chattanooga
(FWA00004149) has approved this research project 06-056

Introduction to the Problem

Students in this classroom are all certified by the Hamilton County school district as Emotionally Disturbed as defined by the Individuals with Disabilities Education Act of 2004. All students in the classroom have Individualized Education Plans (IEPs) with behavioral goals which they are having difficulty obtaining through ordinary classroom behavior management strategies.

Review of Literature

The classroom experience can be conducive to growth and learning. Through focusing on teacher planning, reinforcement of classroom behaviors, awareness of students as individuals, and faith in the abilities of students, teachers can nurture and direct their classes on an educational course that is both satisfactory for the student, as well as the teacher.

Dunton (1998) felt that there were four "B's" of classroom management: be organized, be positive and brief with rules, be interested, and be a believer. Organization is critical in establishing a successful and effective classroom. If a teacher is organized, he can more effectively nudge the class in the right direction. By planning strategies ahead of time and being prepared for various situations that may arise during the course of a school day, teachers can maximize class time by curbing inappropriate behavior. Teachers who demonstrate a positive attitude, and clear, concise discussion of class rules, will go further toward establishing groundwork for behavior. Showing interest in students' abilities, and believing in students and what they can accomplish, will demonstrate the teacher's desire for his class to succeed.

There are many approaches to effective classroom management. Traynor (2002) states that there are five different styles of classroom management: coercive, laissez-faire, task-oriented, authoritative, and intrinsic. While practicing the coercive style may bring about temporary results in the classroom, the overall effect on the students may be detrimental to both learning and behavior. The coercive approach to classroom management utilizes anger, sarcasm, and ridicule or criticism of students. This type of behavior, on the part of the teacher, enables students to recognize a situation that is not in control and to begin to further instigate poor behavior. Also, the student's self-esteem is affected. This continued assault on a student's self- image may cause long term behavior and educational problems for the student, even after they have left that teacher's classroom.

Laissez-faire styles of teaching may be the easiest approach for the teacher who does not wish to stimulate misbehavior. It is also an approach that does not stimulate learning. Students may appreciate the fellowship of a teacher who would rather act as a peer. However, they are often unknowingly bereft of academic motivation.

Task-oriented classrooms may often appear to be engaged in academic pursuit. However, this can be misleading as the teacher is often utilizing "busy work" to maintain order in the classroom, instead of inspiring participation in learning activities.

The two most effective styles of classroom management are authoritative and intrinsic. While coercive, laissez-faire, and task-oriented tend to utilize anger, lack of motivation, and "busy work," respectively, authoritative classroom management offers stability and consistency through clear and concise rules and consequences. The teacher is firm, fair, and consistent in enforcing these guidelines. This gives students a sense of

predictability and stability that they may be lacking in other areas of their lives. The intrinsic approach is directed toward teaching the student how to establish control over himself. The teacher uses positive reinforcement and a system of rewards to increase the desired behavior in students. Authoritative and intrinsic styles of classroom management are noted as the most pedagogically sound methods for maintaining the classroom environment.

One basic theme that continued to resurface in the articles was allowing students to participate in the establishment of rules and expectations for behavior at the beginning of class (e.g., Dunton, 1998; Gazin, 1999; Pearson Education Development Group, 2003). This method of including students in the development of classroom management policies allows the students to feel that they are a part of the decision-making process. Allowing students to assist in establishing class rules will help foster a greater sense of responsibility and ensure that they are more likely to abide by the rules they have helped generate.

Consistency in enforcing the rules and modeling the behavior that is expected are also key areas of successful classroom management. A teacher who leads by example will assist in developing positive behavior. Teachers should remember that they are role models, and that students are more likely exhibit a positive manner during classroom activities if the teacher is promoting this behavior through his own conduct. Reinforcement of these desired behaviors will help ensure that the behaviors continue, even outside of the classroom.

Teachers who remember to praise students who succeed, as well as students who demonstrate effort, will illustrate to the class that they are important and give them a greater sense of worth. This will also promote respect between teachers and students.

Many teachers have begun to create effective positive reinforcement strategies to assist in, not only classroom management, but continued positive behavior in students, as well. Positive reinforcement is a universal principle that is in effect regardless of the age, gender, culture, or disability of a child (1995). While behaviors that receive punishment tend to disappear only temporarily, behaviors that receive reinforcement tend to continue to reoccur more frequently (Maag, 2001).

Historically, punishment has been the acceptable means for managing student behavior. Teachers have embraced punishment in the past because it is easy to administer, works for many students without challenging behaviors, and has been part of the Judeo-Christian history that dominates much of our society (Maag, 2001). However, punishment may be ineffective for managing many behaviors, and the results of positive reinforcement cannot be ignored. Punishment may achieve quick cessation of negative or inappropriate behaviors. However, it will not guarantee that the behavior will not reappear, nor will it teach the student what the appropriate behavior should be.

Positive behaviors will allow the classroom to be more conducive to learning by teaching the students what the appropriate behaviors should be, and then reinforcing the behaviors through acknowledgement and praise when these behaviors occur. Some teachers feel that reward are also appropriate, while others feel they are tantamount to bribing the students to be good. Differentiating between rewards and reinforcement then becomes an issue of classroom management. Being proactive, and developing behavior

management plans, as well as educational plans, will help teachers maintain appropriate behaviors in the classroom. However, many teachers will need to experiment to discover what works best for their class.

Other factors should also be taken into consideration when planning an effective classroom management strategy. Utilization of classroom space is important. Having designated special areas such as activity, computer, or learning centers to generate interest and decrease monotony in classrooms can be effective in motivating students to exhibit good behaviors in order to earn privileges at these centers. Seating students in a circle or groups of desks can aid in encouraging participation. Also, assuring that students are engaged in activities that are challenging can alleviate acting out caused by boredom.

Teachers access to resources regarding classroom management is also vital. There are many resources available to teachers through periodicals, books, and the Internet. However, resources that should not be underestimated are other teachers, administrators, guidance counselors, and parents. Learning and implementing effective classroom management strategies are paramount for anyone who wishes to become a successful teacher.

Research Questions

Can recommended practices encourage classroom success in students with emotional and behavioral difficulties? Can students with certified disabilities benefit from intensive positive reinforcement?

Data Collection and Results

Data Collection

Subjects and Participants

Subjects include two, third-grade students and one, fourth-grade student from a mixed, self-contained special education classroom for children with emotional disturbances. These students all have IEP's which include similar behavior goals. Each student has struggled in the regular education setting to meet these goals. All three students were placed in the self-contained classroom due to their inability to be maintained in a regular education environment and are relatively new to the program. The classroom teacher and the educational assistant will both participate in maintaining the data to be collected and in interacting with the students to encourage them to meet their behavior goals.

Methodology

Data will be gathered using a data collection form that designates the goal to be practiced and whether the student is successful at practicing this goal. Students are rated as "G" – Goal met or "N" – Goal not met, on an hourly basis. For each goal that is met, the student will be awarded a point. Students may accrue these points and use them to "purchase" items from the teacher's store on a weekly basis.

There are a total of seven points available per behavior for each student per day and seven behaviors being measured each day. This translates to a possible 49 points per day. A student's possible points per day may vary as students are absent or leave early. Students are kept apprised of the points they have earned through the week. Students are also rewarded throughout the day with verbal praise, hugs, high fives, and other non

extrinsic means. This helps to positively reinforce the behaviors and give immediate feedback to the students. Appropriate behaviors were also modeled by the teacher and educational assistant to further demonstrate and reinforce the goals students were working toward achieving. Students' points appear in Figure 1. Students were expected to receive a minimum of 70% success, as indicated by their IEP's.

Students were expected to receive a minimum of 70% success as indicated by their IEP's.

Variables

Variables will include, but may not be limited to, students' age, gender, and educational level of functioning. Other variables may include students' mental status, current living situations, safety concerns, absenteeism, tardiness, early dismissals, suspension, illness, and medication regimes.

Results

Students were very responsive to the idea of earning additional rewards through the points they accrued. However, their lack of coping skills and behavior management skills infringed upon many of their opportunities to earn points. Two students had more difficulty with limits being upheld and not receiving points or rewards when behavior was not as expected. These two students would then "sabotage" their further chances to earn points by expressing their displeasure through destructive and verbally abusive means.

As previously stated, all students' IEP's indicated a success rating of 70% for their behavioral goals. Student Number 3 achieved above this success rate on all behavior goals, often scoring into the 80%-90% range. Student Number 1 and Number 2

both received a success rating of at least 70% in the areas of respecting others' personal space, maintaining safe behaviors, and staying in their assigned areas.

Student Number 3's demonstration of significant improvement in the areas of behavior management led to some very positive conclusions. This student was eager to earn points and to demonstrate the ability to control or modify the student's own behavior. This student achieved the highest percentages and highest daily points of the three subjects.

Student's points appear in figure 1.

Goal	Total Points Possible	Total Points Received	Total Average	Average points per day per behavior
Student 1 followed directions	126	84	67%	4.7
Student 2 followed directions	105	71	68%	4.7
Student 3 followed directions	126	115	91%	6.4
Student 1 respected others' personal space	126	92	73%	5.1
Student 2 respected others' personal space	112	82	73%	5
Student 3 respected others' personal space	126	119	94%	6.6
Student 1 maintained safe behaviors	126	90	71%	5
Student 2 maintained safe behaviors	112	79	71%	4.9
Student 3 maintained safe behaviors	126	118	94%	6.5
Student 1 stayed in assigned area	126	95	75%	5.3
Student 2 stayed in assigned area	112	81	94%	5
Student 3 stayed in assigned area	126	118	94%	6.6
Student 1 used a calm voice	126	84	67%	4.6

Goal	Total Points Possible	Total Points Received	Total Average	Average points per day per behavior
Student 2 used a calm voice	112	75	67%	4.6
Student 3 used a calm voice	126	118	94%	6.6
Student 1 ignored the negative behavior of others	126	84	67%	4.6
Student 2 ignored the negative behavior of others	105	69	66%	4.3
Student 3 ignored the negative behavior of others	126	107	85%	5.9
Student 1 let others take care of their own issues	126	85	67%	4.7
Student 2 let others take care of their own issues	105	69	66%	4.6
Student 3 let others take care of their own issues	126	110	87%	6

Figure 1. Student points

Conclusions and Recommendations

Serious consideration and planning must be given to this particular population of students. Many of them lack the requisite coping skills that are essential to everyday life. The ability to handle confrontations, participate in competitive events, socialize with peers, interact appropriately with adults, and contribute positively in a variety of situations is lacking in these students. Whether from social maladjustment, deficits in positive role models, or a manifestation of each student's own particular emotional disorder, the necessary coping and social skills for day-to-day life must be instilled and nurtured in this particular population if they are to grow to live productively.

This particular study was relatively easy to perform. Materials were readily available and the students had goals in place from their IEP's which allowed a starting point and also removed the need of having to identify goals for the study. Students were also excited to participate to earn extra rewards.

The time constraints were the most difficult aspect of the study. Only 18 school days were available in which to complete the study and may not have allowed for a long enough sampling period. Also, having this study at the end of the school year was difficult as students were essentially "done with school" at least 2 weeks before school was actually dismissed. Structure in the classroom was also altered somewhat during the last weeks of school in order to keep students engaged and learning until the end of the school year.

This study did allow this examiner to identify the one student who was ready to begin behavior modification and to allow that modification to take place. Due to this success, this student will be placed in a transition level for August 2006. This means that

Student Number 3 will begin to transition back to the home zoned school with behavior supports in place to help the student access the general education curriculum in a regular education setting.

In consideration of the fact that there were only three subjects in this study, the improvement demonstrated by Student Number 3, and the opportunity for this student to transition back to a regular education setting, indicates the success of this study, and future studies similar in nature, in encouraging and identifying students who are successfully meeting their behavioral goals. This study also helped to identify the students who need further intensive behavior modification, social skills training, coping skills development, and anger management training in order to help them be successful in an education setting.

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A Comparison of Perspective: How Teachers and Administrators View Standardized Test Scores and Their Effects on the Classroom

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Education 590, Spring 2006

The University of Tennessee at Chattanooga

The Institutional Review Board of the University of Tennessee at Chattanooga (FWA00004149) has approved this research project 06-019.

Introduction

One of the most controversial issues in the educational community continues to be that of standardized testing and its effects on the classroom learning environment. Teachers and principals across the nation invest massive amounts of time and effort in preparing students for state, and federally-mandated tests. These tests, and their results, guide, shape, and form educational policy, as well as state curriculum and standards. While policy and curriculum are being made in state capitals around the country and in Washington, DC, classroom teachers and principals deal with the effects of the tests, curriculum, and policy on a daily basis. This project is a comparison of how classroom teachers and administrators view these tests and what type of impact these tests have on the classroom.

Review of Literature

In the 1990s, an educational reform movement based on improving state standards was implemented in many school districts around the nation. The purpose of these new standards was to improve the quality of education in America (Berube, 2004). To assess these new standards, most states employ the use of standardized, multiple-choice tests. Some argue that these tests "only test knowledge recall… [And] hold teachers' and administrators' creativity hostage and threaten job security and professional contentment" (Berube, 2004, p. 264). Teachers and administrators want all students to score well on these tests but do not want to resort to the rote memorization of facts in order to achieve high test scores. Therefore, the issue of "teaching to the test" comes up in this discussion about standards, and whether or not test preparation is, in fact, teaching the standards and curriculum. People in favor of this type of test believe that "the tests measure success in

teaching the curriculum and so 'teaching to the test' is 'teaching to the curriculum'" (Posner, 2004, p. 749). Posner also states, however, that "teaching to the test" "requires ignoring individual students in favor of statistical abstractions" (2004). When teachers focus solely on test material, then the students may miss out on many enrichment opportunities and lessons in order to better prepare them for the high-stakes test. Pedulla (2003) finds that teachers "changed the amount of time spent on various activities in order to prepare students for the state-mandated testing program… [And] teachers believe that tests have a narrowing effect on what they teach" (p. 43). Teachers and administrators strive to give students a well-rounded, engaging education; however, extra-curricular activities and enrichment programs tend to get less focus because of the great importance placed on standardized tests.

In this regard, teachers who want their students to do well, tend to focus more on preparing students for standardized tests. "Teachers in high-stakes testing situations felt more pressure to have their students do well on the test, as well as to align their instruction with the test and to engage in more test preparation" (Schroeder, 2003, p. 54). Pressured to do well on standardized tests, teachers "contradicted what they thought to be the best for their students" (Lewis, 2003, p. 70). Teachers tend to abandon reliable instructional procedures so that their students will score better on these high-stakes, standardized assessments. According to the American Federation of Teachers, "the primary goal of assessments is to ensure that all students have the knowledge and skills they need to succeed at the next level and to trigger assistance for those who would otherwise fall through the cracks" (2001, ¶ 61). These tests appear to achieve the goals set out by the American Federation of Teachers, but the scores of the assessments and the

effects on the classroom come with a large price when it comes to how the scores are viewed.

Teachers, administrators, and educational officials use these test scores in a variety of ways. Educational officials use these test results as an assessment of student knowledge, as well as teacher accountability, because "policy makers and the public generally do believe that test scores provide a reliable, external, objective measure of school quality" (Abrams & Madaus, 2003, p. 32). Yet, using the test data from a particular school to assess the educational value and teacher effectiveness causes a rift in the educational community because some would argue that these tests do not show the entire picture. Casbarro (2005) points out that "a school is based on multiple assessments, not just test scores, and that the quality of a school is also defined by such aspects as its safety, its culture of caring, and its arts and physical education programs" (p. 19). School officials contend that high-stakes testing can be useful, but it should not be the only way to measure a school's quality.

Testing and assessment is an ongoing theme that occurs frequently in the classroom, not just once a year when the students take the state-mandated tests. Continuing, Casbarro (2005) stresses that, "teachers use a variety of other assessments, such as quizzes, homework, projects, and portfolios, not only to measure ongoing progress but to diagnose their own classroom performance" (p. 19). Moreover, material that is tested does not always coincide with the curricular standards, a situation which lowers scores because teachers spend time teaching items from the curriculum that do not appear on the test. Popham (2001) echoes this view by stating, "standardized achievement tests should not be used to evaluate the quality of students' schooling

because there are meaningful mismatches between what is tested and what is supposed to be taught, and those mismatches are often unrecognized" (p. 46). Despite mismatches in curricular content and tested material, educational policymakers and the public at-large hold teachers and administrators accountable for poor, as well as good, test scores.

Data Collection and Results

Data Collection

The data for this project were collected from an inner-city, K-12 magnet school in Chattanooga during the winter/spring of 2006. This school was selected for the survey because of the high (Tennessee Comprehensive Assessment Program) TCAP scores from year to year. The school ranks as one of the top-performing schools in the county school system. The survey instrument (see Appendix A) was given to 25 secondary teachers of varying subjects. Of the 25 distributed, 15 were returned and counted in the data results. The survey instrument was also given to the school's five administrators. All were returned and counted in the data results. The participants were given 2 weeks to return the surveys. The instrument consisted of seven questions that dealt with different aspects of standardized testing and how they affect the school and classroom instruction. The data were collected on questions 1-5 for all participants; however, only faculty responses were counted for questions 6 and 7 because they dealt specifically with classroom issues that administrators could not answer. The instrument also contained a space for additional comments that the participants could use to write any questions, comments, or concerns about the study.

Results

The data were collected and analyzed according to the responses to the questions on the survey instrument. The results were tabulated into percentages in order to show the differences in responses between the two surveyed groups.

Administrative Reponses

For question 2, "Has standardized testing improved classroom instruction," 100 percent of administrative responders answered "yes". Figure 1 depicts the answers to question 3. Forty percent of administrators think that standardized testing has a somewhat favorable impact while another 40 percent believe that these tests have a very favorable impact. Only 20 percent believe that these tests have no impact on classroom instruction.

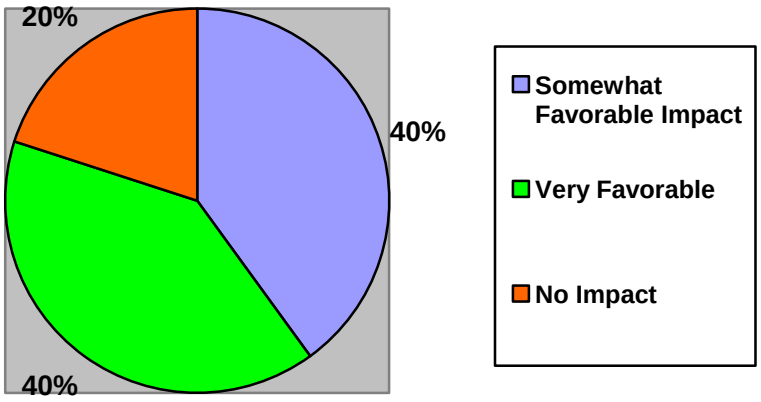

Figure 1. Administrative responses to what type of impact they believe standardized testing has on classroom instruction.

For question 4, "Do you agree with the following statement: 'Teaching to the test' (e.g., Gateway, TCAP) is teaching to the curriculum," 100 percent of respondents answered "no." For Question 5, "Which best describes your view on the use of standardized test scores as accountability assessment for teachers," 100 percent of respondents reported

that these tests are a somewhat fair assessment. Under the comments section of the survey, one administrative respondent reported that the questions "dealt with very complex issues and had only very simple answers to choose from."

Teacher Responses

For question 2, "Has standardized testing improved classroom instruction," 100 percent of teacher responders answered "no." Figure 2 depicts the range of answers for question 3. Sixty-seven percent of respondents believe that standardized testing has a somewhat unfavorable impact on classroom instruction. Twenty percent believe that tests have a very unfavorable impact; while 13 percent think that standardized test have no impact on classroom instruction.

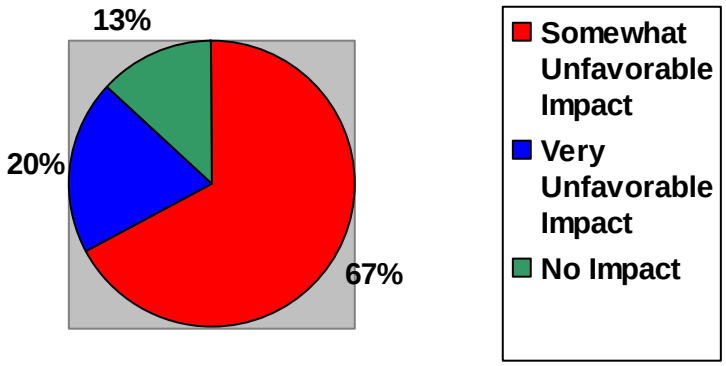

Figure 2. Teacher responses to what type of impact they believe standardized testing has on classroom instruction.

For question 4, "Do you agree with the following statement: 'Teaching to the test' (e.g., Gateway, TCAP) is teaching to the curriculum," 100 percent of respondents answered "yes." For question 5, "Which best describes your view on the use of standardized test scores as accountability assessment for teachers," 60 percent of

respondents reported that these tests are a somewhat fair assessment. The remaining 40 percent is split between somewhat unfair and very unfair (see Figure 3).

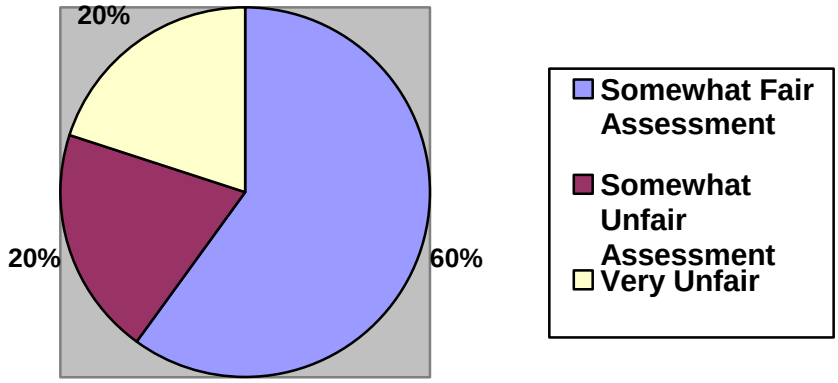

Figure 3. Teacher responses to how they see the use of standardized test as accountability tool for teachers.

Question 6 dealt with teachers' awareness of state standards in their respective teaching areas. Seventy-three percent of teachers indicated that they were very aware of their subject's state standards while 20 percent said that they were somewhat aware. Only six percent of respondents claimed to be indifferent about the level of awareness in their subject's state standards (see Figure 4).

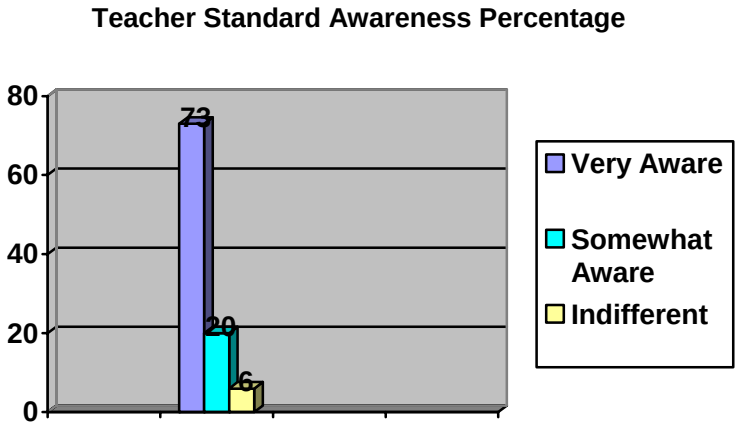

Figure 4. The percentage of the level of awareness of state standards.

Question 7 was a two-part question that dealt curricular issues. The first part of the question asked, "Have you had to change and/or omit previously taught material to adapt to new testing material and state standards?" Eighty percent of respondents indicated that, yes, they had changed and or omitted material to adapt to state standards. Twenty percent of the teachers survey revealed that, no, they had not omitted or changed material to adapt to state standards(see figure 5). In the second part of the question, the 80 percent of respondents that changed their teaching material believed that this had a negative impact on classroom instruction while the remaining 20 percent said this has no impact on the classroom.

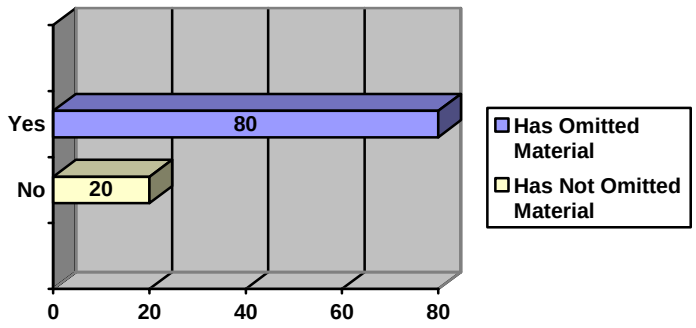

Figure 5. The percentage of teachers that has changed or omitted materials previously taught in order to adapt to state standards

Conclusions and Recommendations

Several discrepancies in the perception of these tests surface as a result of the use of these assessments between administrators and classroom teachers. One of the biggest differences in perception can be seen in how these groups view the effect of these tests on classroom instruction. According to the survey, all the administrators believe that these tests have a positive effect on classroom instruction, while all teachers believe that that these types of assessments have a negative effect on classroom instruction. Teachers and

administrators view these tests in totally different ways, partially because teachers are held more responsible for test scores. Teachers see these test scores as a reflection of their students, and administrators see these scores as a reflection of the teachers. Each group views the same assessment as having two separate purposes, and this is where the major discrepancy occurs. Teachers and administrators need to come together as to what they believe these test scores actually provide: an assessment of teacher ability, an assessment of student achievement, or both.

Currently, the students, themselves, are not held responsible for their own scores, and teachers bear the brunt of responsibility for the test scores because they are the ones who teach the children on a daily basis. As a consequence, many students do not take these tests seriously. If the students were required to pass these tests, or some of the tests, in order to be promoted to the next grade level, then test scores would most likely improve. In doing this, teachers and administrators could work together to agree on what these tests are actually measuring because everyone involved in the testing process has some responsibility.

There is a general consensus among many of the major educational professional organizations about the use of high-stakes testing. The National Council for the Social Studies, the National Science Teachers Association, the National Council of Teachers of Mathematics, and the National Middle School Association all agree that high-stakes testing should not be the only means of assessment when measuring student success. They contend that multiple forms of assessment should be used when considering student mastery of material. Most of these organizations also believe that using these types of tests as an assessment of teacher ability is wrong because these tests do not measure all of

a student's abilities and knowledge. Teachers tend to cover more diversified material that might not be tested. These organizations also contend that when greater emphasis is placed on test scores, rather than students getting a well-rounded education, teachers narrow instruction to test items and students do not get supplemental information.

Since the implementation of the No Child Left Behind legislation, a great amount of emphasis has been placed on state standards and students mastering these standards. Even though the sample of people surveyed in this project was small, the results indicating teacher awareness of state standards was quite surprising. Several respondents were only somewhat aware or indifferent to the knowledge of their respective standards in their subject area. In an atmosphere where these high-stakes tests are used as an assessment tool for teachers in their subject, the fact that they were indifferent or unaware of what they were supposed to be teaching is unacceptable. This is one area where professional development could benefit all parties involved in the testing process. Educating teachers on their curriculum and state standards would guarantee that students are taught the necessary information to pass these tests. Moreover, this adds validity to the practice of using these tests as teacher assessments. If teachers know specifically what they have to teach, as prescribed by the state, then the responsibility falls more onto the teacher for student test scores.

This subject is an ongoing issue that will be continued to be studied by many individuals, groups, state agencies, and federal policymakers. Currently, there are many grants available for research into the areas of assessment, standards, and curriculum through the U.S. Department of Education and the Tennessee Department of Education.

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Appendix A
Survey

Please circle the answer that best applies to you.

1. Are you a:

Faculty Member or Administrator

2. Has standardized testing improved classroom instruction?

Yes No Unsure

3. Which best describes your view of the impact that standardized test scores have had on classroom instruction?

Very favorable impact
Somewhat favorable impact
No impact
Somewhat unfavorable impact
Very unfavorable impact

4. Do you agree with the following statement: "Teaching to 'the test' (e.g., Gateway, TCAP) is teaching to the curriculum."

Yes No Unsure

5. Which best describes your view on the use of standardized test scores as an accountability assessment for teachers? Standardized tests scores are a

Very fair assessment
Somewhat fair assessment
Indifferent
Somewhat unfair assessment
Very unfair assessment

6. How aware of the state standards in your subject do you consider yourself?

Very aware
Somewhat aware
Indifferent
Somewhat unaware
Very unaware
Not Applicable

7. (a) Have you had to change and/or omit previously taught material to adapt to new testing material and state standards? **(b)** Has this had a positive or negative effect on classroom instruction?

(a) Yes No Unsure

(b) Positive effect on instruction No effect Negative effect on instruction

Comments:

Technology

Teachers' Attitudes Towards Technology in the

Elementary Classroom

Tony Phillip Stokes

Education 590, Spring 2006

The University of Tennessee at Chattanooga

The Institutional Review Board of the University of Tennessee at Chattanooga
(FWA00004149) has approved this research project 06-030

Introduction to the Problem

In the past decade, computers have become a valuable asset to classroom teachers, as well as their students. Teachers use computers to tally grades, record the progress of their students, and to connect to the World Wide Web for lesson plan ideas. But what are teachers' attitudes towards computers in their classrooms? Do they truly value them, or do they feel that, like many new changes that take place in the academic world, computers will vanish and be replaced by a more advanced technology. This project is based on the research of elementary school teachers at two K-5 schools, on urban and one suburban. This project also considers the teacher's attitudes regarding the use technology in their classrooms. Technology is not mentioned in the Hamilton County Department of Education standards or benchmarks for elementary education, but computers are being used in most classrooms, and by most teachers, in the county.

Review of Literature

Technology in the elementary classroom is a creation of the social change that has taken place in the 20th century. Any American over 50 years of age has seen the development of the telegraph and the telephone which made possible direct communication with the farthermost cities of the world. He or she has observed the development of air travel which has moved ordinary people and machines half-way around the world in little more than a day and astronauts around the world in only minutes. They have observed the development of radio, television, and electronic satellites which brought world events into living rooms across the nation. They have learned of the amazing discovery of atomic power and have seen its destructive and constructive uses. They have used "wonder drugs" that alleviate pain, sickness, and fear.

They witnessed common conveniences such as modern plumbing, central heating, automobiles, and electrical home appliances be accepted universally within this century (Scobey, 1968). Computer use has had a similar beginning in our public education system. When computers were first introduced in elementary classrooms, they were seldom used or integrated into subject areas, but were primarily taught as a separate entity. Some schools used them as enrichment activities, and others used them as instructional tools to help boost student's achievement scores in school. Nowadays, computers are widely used in the elementary curriculum. Teachers at an urban magnet school use them in centers, and teachers at a suburban school use them to teach their students typing, math, spelling, reading, journal writing, and a host of other subjects that they are required to teach students to meet the state standards and benchmarks.

Nowadays, it is commonplace to walk into any classroom in America and see students engaged in activities on computers or see students using the Internet. As common as it is now, this integration of computers and technology in the classroom has not been around very long. In 1992, the San Antonio, Texas consortium of institutions of higher education, local school districts, and the Center for Educational Development and Excellence (CEDE), was formed to meet the state initiative to infuse technology into teacher pre service education and in service education training (Medcalf-Davenport, 1998). This membership was formed because computers were being used in every sector of American society. Many people had difficulty finding good-paying jobs because they were not computer literate. By 1996, President Clinton created a national mandate that stated that every young person had to be technologically literate by the 21st century. In order for school districts to meet this mandate, they had to adopt standards and

benchmarks that reflected President Clinton's goal. In Texas, the Texas Essential Knowledge curriculum (TEK) was formed to meet this mandate. Under this curriculum, teachers were expected to integrate technology into their classrooms and they were being held accountable for their students' performance on the Texas Assessment of Academic Skills (TAAS). What was recognized very early into this mandate was that many teachers were not comfortable teaching technology. Trotter (1997) cites a study done by Becker which found that only 5% of teachers using computers were "exemplary" in their use. Many teachers were observed, and what was discovered was that many of them still taught in a traditional manner no matter how many computers and what technology in their school was available to them. These observations uncovered that veteran teachers were reluctant to implement technology into their classrooms.

According to Roblyer and Edwards (2000), educational research has not provided the evidence needed to convince teachers of the benefits of using computers in the classroom. Sandholtz, Ringstaff and Dwyer (1997) agree the effort has been directed toward analysis of students rather than investigation of teachers. Many teachers are not convinced that this is not the latest fad in education (Frey, 2000). This skeptism is hindering the progress. What was learned from observing veteran teachers in Texas was that many of them had bad attitudes towards technology use in their classrooms. The reason for this phenomenon is because these teachers are in a role that they are unfamiliar with, and that many of their students know more about computers than they do. For most, this is a difficult transition; after all, they are the teachers and they are expected to know how to use a computer better than their students (Frey, 2000). Lowther and Sullivan (1994) indicated that teachers' attitudes toward computers and the use of

computers vary greatly. A review performed by Kluever, Lam, Hoffman, Green, and Swearingen (1994) exposed that attitudes towards computers have distinct evaluative and affective components. Loyd and Loyd (1985) developed the Computer Attitude Scale (CAS). This was a useful survey. It was used to gage the attitudes and beliefs teachers held towards technology, but it was limited in its ability to examine those issues. Over the years, a lot of people have created surveys that gage what teachers' attitudes towards technology are. What is learned from the surveys is that they are limited in application to attitudes of teachers to technology, in general (McFarlane, Hoffman, & Green, 1997).

According to Frey (2000), the only way to combat teachers' bad attitudes toward technology is to introduce them to computers in a non-threatening manner starting with helping them learn some basic computer skills such as e-mail, word processing, and conducting ERIC (Education Resources Information Center) searches. She goes on to say that once they tie together those skills, the next thing they should learn is how to use the Internet. The Internet is a valuable resource to educators because it helps find lesson plans, helps generate ideas for curriculum, and exposes them to resources to which they otherwise would not have access. Unfortunately, this is all an experienced teacher can do to help themselves learn technology. Most of the research, nowadays, is centered on teaching pre service teachers' computer skills that will allow them to be better-prepared teachers. The research says that pre service teachers learn how to use programs such as Kidspiration, PowerPoint, and Excel, but they also learn how to manipulate the Internet to help them find lesson plan ideas or teacher-created sites where they can copy proven classroom activities for their own classrooms.

Professor Robert Hannafin (1999) wrote a journal article titled, *Can Teacher Attitudes About Learning Be Changed.* This study examined the beliefs and attitudes that 12 teachers held in a middle-class, public school. What was discovered was that the teachers who were grounded in objectivism (which is the belief that knowledge exists as truths outside of the mind and that these truths must be transmitted to the learner for learning to occur) resisted the use of computers in their classrooms because they did not want to relinquish their classroom control to computer-related activities. This objectivism stems from deep-rooted cultural values in school tradition. What was learned from the study was that teachers' belief and attitudes towards technology could be changed if they received education and training through; in-service workshops and professional development that illustrated how computers and technology can benefit them in their classrooms.

Data Collection and Results

Data was collected at the beginning of two student teaching placements: one at McConnell Elementary School, which is a rural placement, and the other at Herman H. Battle Academy, which is a Magnet School in an urban setting. The teachers were given a survey that asked them a variety of questions pertaining to their use of technology, what grade they taught, how long they have been teaching, and how they use technology in their classrooms on a daily basis. There are 25 multiple choice questions on the survey (see Appendix B).

The survey measures teacher's use of technology in their classrooms, their attitude towards it, how long they have been teaching, and how current they are in the new advances in technology.

The histogram in Figure 1 illustrates the mean, the standard deviation, and the number of teachers surveyed at the suburban school for question 17. Of the five teachers surveyed, two agreed that the school's technology was dated and three strongly agreed that the technology was dated. The results are skewed to the right. This illustrates that the teachers believe that they are working with archaic computers. What an official from Hamilton County can take from this research is that financial resources need to be allocated to the suburban schools. If the school is lagging behind in technology, then maybe other schools need to be surveyed to see how they are doing in regards to technology.

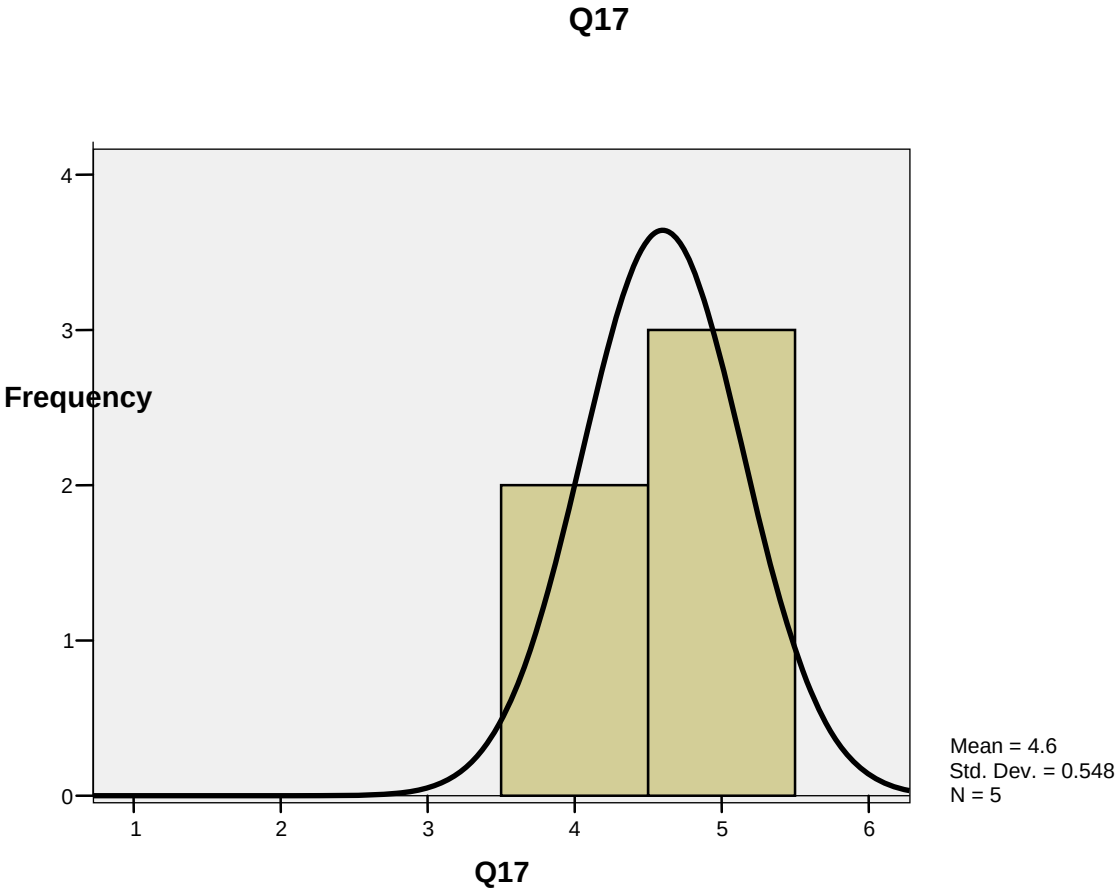

Figure 1. Histogram for question 17.

The histogram in figure 2 shows the mean, standard deviation, and number of teachers surveyed at the urban magnet school for question 23. Of the ten teachers who returned the survey, 4 disagreed that their classrooms needed more technology, two were neutral, three agreed that they need more technology, and only one strongly agreed that they need more technology. The results from Battle are more on the lines of a normal curve. Half the teachers are satisfied with the technology they have in their classrooms, and the other half would like to have more. An official from Hamilton County could read the results from this table as a declaration of success. Teachers at this school are well equipped with the tools they need to educate their students.

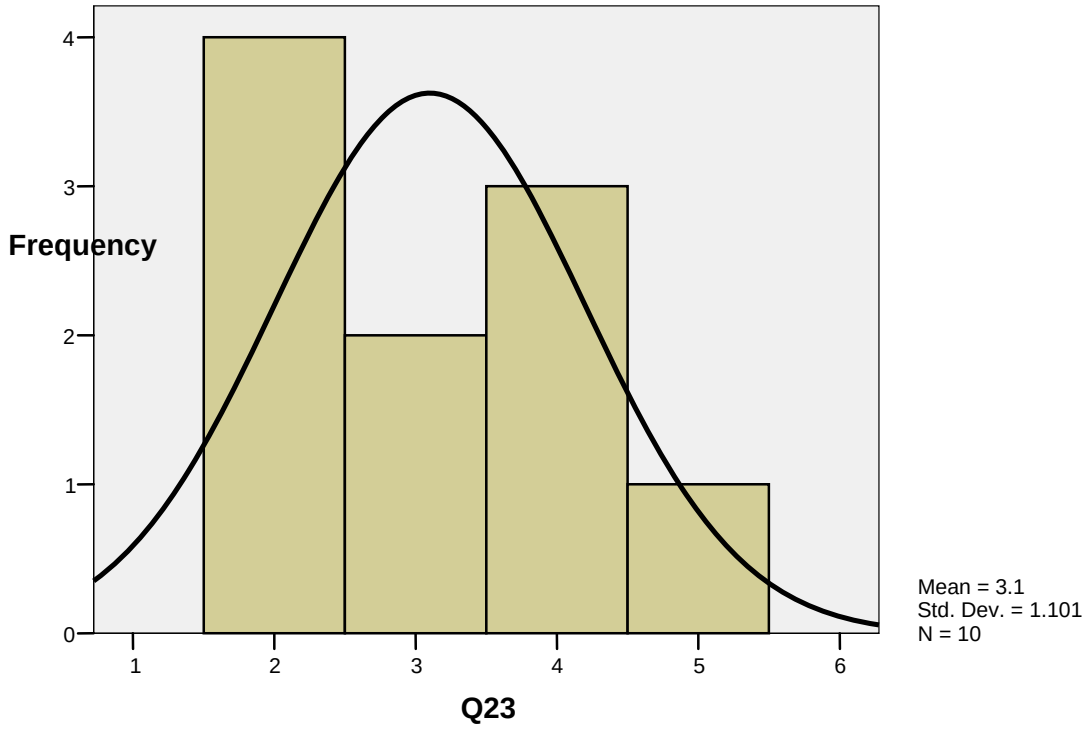

Figure 2. Histogram for question 23.

Conclusions and Recommendations

The computer program SPSS was used to tally the results from the research. The questions were worded in such a way that they would not put a teacher into a compromising situation regarding how they felt about technology. The questionnaire was comprised of 25 multiple choice questions and should not have taken the teachers more than 15 minutes to complete. Twenty questionnaires were put into random teacher mailboxes at both elementary schools; only 15 were returned out of the 40 total. Five surveys were filled out at the suburban school and 10 surveys were filled out at the urban magnet school.

Utilizing SPSS, some interesting results were drawn from several of the questions. Two particularly interesting results came from questions 17 and 23. Both questions related to technology use in the classroom. Correlation was drawn between the lack of technology in a suburban setting versus an urban setting, as well as the teachers' desire for more technology in the suburban elementary setting. The teachers at the urban elementary school did not have a strong desire to upgrade their technology.

Question 17 asked the teachers if they felt their classrooms were technologically up-to-date. According to question 17, the teachers at the urban magnet school felt that their classrooms were up to date with regards to how they use computers and technology. Six of 10 teachers agreed with the statement that their classrooms are technologically up-to-date. Only one teacher felt that their classroom was not technologically up-to-date. On the other hand, teachers the suburban school felt that their technology and computers were out-dated. One teacher's response was neutral. The survey did not ask the teachers to state why they felt the way they did. Upon later reflection, it is clear that the urban

school, since it is a new school and also a magnet school, was able to buy new computers, whereas the suburban school has been in existence for many years and, since it is not a magnet school, does not reap the same financial rewards. Figure 3 illustrates the results from question 17, as generated by SPSS.

This research project, through the use of a self-report survey, looked at the differences in attitudes between teachers in two different Hamilton County schools. The research found that teachers at a suburban elementary school feel that technology at their school needs to be updated. Teachers at an urban magnet school, on the other hand, feel that the technology in use at their school is sufficient and that it does not need to be updated. Teachers at both sites, according to the survey, show that they have a high regard for the use of technology in their classrooms and that they do not represent the previously-illustrated teachers who do not embrace the use of technology in their classrooms.

Question 17

School			Frequency	Percent	Valid Percent	Cumulative Percent
suburban	Valid	strongly disagree	1	20.0	20.0	20.0
		disagree	4	80.0	80.0	100.0
		Total	5	100.0	100.0	
urban	Valid	disagree	1	10.0	10.0	10.0
		neutral	1	10.0	10.0	20.0
		agree	6	60.0	60.0	80.0
		strongly agree	2	20.0	20.0	100.0
		Total	10	100.0	100.0	

Figure 3. SPSS – generated data for question 17.

Question 23 asked the teachers at both sites if they agree that they need more technology in their classrooms. The teachers at the suburban school all acknowledged that they have a strong desire to update their classrooms. Two teachers agreed that the school needs to have its technology updated, and three strongly agreed. The teachers at the urban school acknowledged that they were satisfied with the technological levels within their classrooms. Figure 4 illustrates the results as generated by SPSS.

Question 23

School			Frequency	Percent	Valid Percent	Cumulative Percent
McConnell	Valid	agree	2	40.0	40.0	40.0
		strongly agree	3	60.0	60.0	100.0
		Total	5	100.0	100.0	
Battle	Valid	disagree	4	40.0	40.0	40.0
		neutral	2	20.0	20.0	60.0
		agree	3	30.0	30.0	90.0
		strongly agree	1	10.0	10.0	100.0
		Total	10	100.0	100.0	

Figure 4. SPSS – generated data for question 23.

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Appendix A

Technology in the Elementary Classroom

This is an anonymous survey designed to look at technology in the elementary classroom. Please do not print your name or other identifying information on this survey. Place the completed form in the orange box labeled 'Surveys' that is in the Teacher's Lounge. Thank you for your time and consideration.

I. Circle the appropriate answer.

1. At what school do you teach?

1. suburban elementary school
2. urban magnet school

2. What grade level do you teach?

1. K
2. 1st
3. 2nd
4. 3rd
5. 4th
6. Other

3. How long have you taught your current grade level?

1. 0-4 years
2. 5-9 years
3. 10-14 years
4. 15-19 years
5. 20+ years

4. **How long have you been teaching altogether?**
    1. 0-4 years
    2. 5-9 years
    3. 10-14 years
    4. 15-19 years
    5. 20+ years
5. **How long have you taught at your current school?**
    1. 0-4 years
    2. 5-9 years
    3. 10-14 years
    4. 15-19 years
    5. 20+ years
6. **Have you taken a course in technology within the past year?**
    1. Yes
    2. No
7. **Have you participated in a professional development workshop on technology within the past year?**
    1. Yes
    2. No
8. **Are you currently pursuing any type of post-bachelor's degree?**
    1. Yes
    2. No

II. Circle the appropriate answer.

9. I use technology in my classroom.

1. strongly disagree
2. disagree
3. neutral
4. agree
5. strongly agree

10. I use technology in my classroom on a daily basis.

1. strongly disagree
2. disagree
3. neutral
4. agree
5. strongly agree

11. Technology in the classroom only pertains to computers.

1. strongly disagree
2. disagree
3. neutral
4. agree
5. strongly agree

12. Student use of technology depends on skill level.

1. strongly disagree
2. disagree
3. neutral
4. agree
5. strongly agree

13. Student use of technology depends on grade level.

1. strongly disagree
2. disagree
3. neutral
4. agree
5. strongly agree

14. All students should have access to technology.

1. strongly disagree
2. disagree
3. neutral
4. agree
5. strongly agree

15. All classrooms should contain at least one student computer.

1. strongly disagree
2. disagree
3. neutral
4. agree
5. strongly agree

16. Computers belong in the lab, not in the classroom.

1. strongly disagree
2. disagree
3. neutral
4. agree
5. strongly agree

III. Circle the appropriate answer.

17. I feel my classroom is technologically up-to-date.

1. strongly disagree
2. disagree
3. neutral
4. agree
5. strongly agree

18. Student access to technology in the classroom should be limited.

1. strongly disagree
2. disagree
3. neutral
4. agree
5. strongly agree

19. Every elementary school should have a technology lab.

1. strongly disagree
2. disagree
3. neutral
4. agree
5. strongly agree

20. I have all the technology I need to perform my job well.

1. strongly disagree
2. disagree
3. neutral
4. agree
5. strongly agree

21. I would like to have more technology available for my students in my classrooms.

1. strongly disagree
2. disagree
3. neutral
4. agree
5. strongly agree

22. Technology in the classroom refers only to materials available for teacher use.

1. strongly disagree
2. disagree
3. neutral
4. agree
5. strongly agree

23. My classroom needs more technology.

1. strongly disagree
2. disagree
3. neutral
4. agree
5. strongly agree

24. Student access to technology should be limited.

1. strongly disagree
2. disagree
3. neutral
4. agree
5. strongly agree

25. Students should have unlimited access to technology in the classroom.

1. strongly disagree
2. disagree
3. neutral
4. agree
5. strongly agree