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ABSTRACT

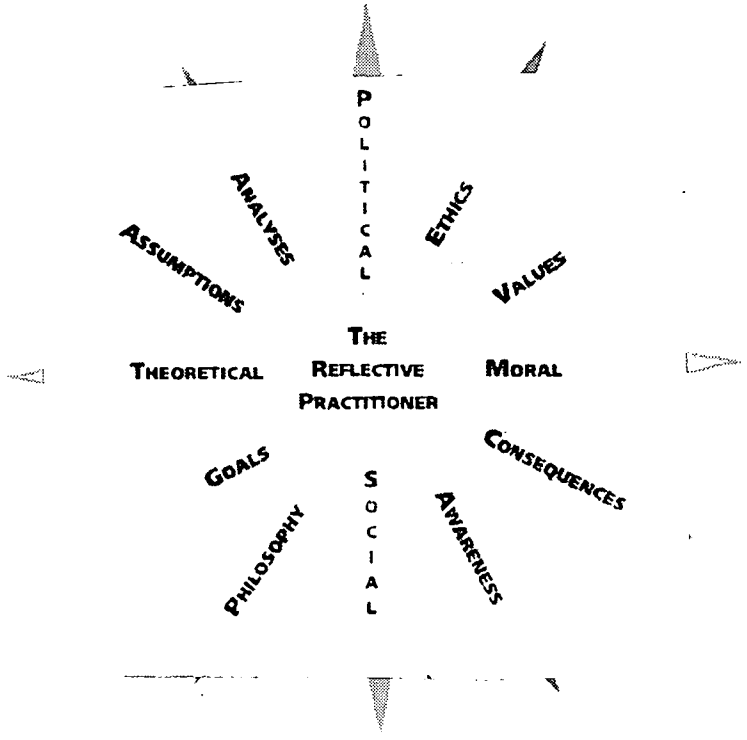
As part of the graduate teacher licensure program at the University of Tennessee at Chattanooga, candidates are required to complete an action research project during a course that coincides with the student teaching experience. The syllabus for the course, "Education 590 Culminating Experience," is included, followed by action research projects from fall 2002. The projects are: "Components in a High School Wellness Class: The Relationship between Curriculum Planning and Pre- and Post-Testing" (Ryan Bandy); "Can Exercise Improve Stress Levels for High School Students?" (Corey Hall); "Geography Evaluation: An Evaluation of Pre-Test/Post-Test Learning Assessment of a Latin America Unit" (Brad Irwin); "Analysis of a Pre-Post Test for the Unit The Five Senses" (Patti Lewis); "Pre- and Post-Test Analysis for U.S. History: Chapter 2" (James H. Mahoney); "Teacher Preparedness for Inclusion: An Examination of Special Education Preparedness for Regular Education Teachers in Inclusive Classrooms" (Amy Marshall); "Effects of Being Labeled Gifted in Elementary Students" (Johnna G. Milsaps); "A Comparison of Pre- and Post-Testing for Both Academic and Physical Education" (Michelle T. Taravella); "A Pre-Test/Post-Test Analysis of Techniques in Teaching Literary Terms" (Alisa Blochowiak Thornhill); and "Case Study Option A" (Drew White). (SM)

Culminating Experience Action Research Projects, Volume 2, Fall 2002

Edited by
Deborah A. McAllister and Peggy S. Moyer

College of Education and Applied Professional Studies
The University of Tennessee at Chattanooga

Educ 590 Section 001 - Culminating Experience - Fall 2002
3 credit hours - By Appointment



ATTENTION: If you are a student with a disability (e.g., physical, learning, psychiatric, vision, hearing, etc.) and think that you might need special assistance or a special accommodation in this class or any other class, call the Office for Students with Disabilities/College Access Program at 425-4006 or come by the office, 110 Frist Hall.

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.

One change in the Education 590 course that was implemented during fall semester 2002 was the use of an online, course management system, allowing for asynchronous discussion (primarily question and answer on course requirements), and use of the digital drop box feature for submitting required preliminary and final papers.

The course syllabus for Education 590 Culminating Experience is presented in the next section, followed by action research projects from fall semester 2002.

Deborah A. McAllister

Peggy S. Moyer

February 2003

Educ 590 Section 001 - Culminating Experience - Fall 2002
3 credit hours - By Appointment

Instructor

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Graduate Assistant:Peggy Moyer, peggy-moyer@gem.utc.edu

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. (2002). *Using APA format.* Retrieved August 11, 2002, from the Purdue University OWL Web site: http://owl.english.purdue.edu/handouts/research/r_apa.html

Degelman, D., & Harris, M. L. (2002, August 9). *APA style essentials.* Retrieved August 11, 2002, from the Vanguard University Web site: http://www.vanguard.edu/faculty/ddegelman/index.cfm?doc_id=796

University of Wisconsin - Madison Writing Center. (2001). *Writer's handbook: APA documentation style.* Retrieved August 11, 2002, from the University of Wisconsin - Madison Writing Center Web site: 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 one of your placements 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.

Design a new project of your own choosing. Submit an outline for my approval.

2. Implementation of the project will be completed during the Induction Experience (Educ 596). Make a decision on the placement at which it will be completed.

3. Completion of the written project, **in APA style**. Include the following elements:
   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 ERIC advanced search should be used to locate references in educational journals and documents. See http://ericir.syr.edu/Eric/adv_search.shtml.
   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. Instrument(s) are placed in individual appendices. Word process instruments from the Web, books, etc., but place a citation on the page and in the reference list. If you cannot guarantee conditions set forth in UTC's research protocol, you must gain prior approval for the project through UTC's Human Subjects Committee. See http://www.utc.edu/CECA/research/humsub.html

4. Communication:
   a. Current email address registered with UTC for communication between student and instructor. The UTC gem (generic electronic mailbox) address will point to the address you have on file. You may register for a UTC email address on the moccasun

server which can be accessed through UTC's webmail. See http://www.utc.edu/acadcomp/students.htm and http://webmail.utc.edu/.

b. Web access to check course announcements and post messages to the discussion forum on Blackboard a minimum of once per week. See http://utconline.utc.edu/.

5. 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 Siskin Memorial.

6. 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	Submitted.	Submitted.	Submitted.	Not submitted.
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 d
First placement		
1	Week of 08/19/02 Meetings - MTu 08/19 - 08/20, 8:30 a.m. - 5:00/3:30 p.m. Explanation of syllabus - Tu 08/20, 4:15 p.m., Hunter 312G Placement begins - W 08/21	Check email account; access Blackboa
2	Week of 08/26/02	Case study option selected; outline posted to discussion foru
3	Week of 09/02/02 Labor Day Holiday - M 09/02	Begin case study work on introduction and review of literatu place file in digital drop box for a check of APA sty
4	Week of 09/09/02	For a first placement case study, instruments submitted for approv
5	Week of 09/16/02	For a first placement case study, begin data collecti
6	Week of 09/23/02	Case study work continu
7	Week of 09/30/02	Case study work continu
8a	Week of 10/07/02 First placement ends - Tu 10/08 Meeting - W 10/09, 8:30 a.m. - 5:00 p.m.	For a first placement case study, the data collection is compl
Second placement		
8b	Week of 10/07/02 Second placement begins - Th 10/10	Case study work continu
9	Week of 10/14/02 HCDE Teacher Professional Development - Th 10/17 (Elem.), F 10/18 (Middle/High) End of first quarter - F 10/18	Case study work continu
10	Week of 10/21/02	For a second placement case study, instruments submitted for approv
11	Week of 10/28/02 Parent Teacher Conference (1/2 day) - F 11/01	For a second placement case study, begin data collecti
12	Week of 11/04/02	Case study work continu
13	Week of 11/11/02	Case study work continu
14	Week of 11/18/02	For a second placement case study, the data collection is compl
15	Week of 11/25/02 Thanksgiving holiday – WThF 11/27 - 11/29	

16	Week of 12/02/02 Second placement ends - F 12/06 Meeting - M 12/09, 2:00 p.m. - 5:00 p.m.	**Completed case study due, 12/02/02, 5:00 p. Assembled in a single file; placed in digital drop b**

W 12/11/02 - Grades due for graduation candidates, 12:00 p.m.

Th 12/12/02 - Grades due for all other students, 12:00 p.m.

Su 12/15/02 - Commencement, 2:00 p.m.

APA style (general guidelines)

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 August 11, 2002, 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.

Rubrics (examples)

Barnard, P. (2002, April 27). *Paula Barnard's educational resources for a global community of learners: Rubric resources.* Retrieved August 11, 2002, from http://www.asd.wednet.edu/EagleCreek/Barnard/sites/ed/rubric.htm

Chicago Public Schools. (2000). *The rubric bank.* Retrieved August 11, 2002, 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 August 11, 2002, from http://intranet.cps.k12.il.us/Assessments/Ideas_and_Rubrics/Create_Rubric/create_rubric.html

Coxon, E. (2002, April 13). *Rubrics from the staff room for Ontario teachers.* Retrieved August 11, 2002, from http://www.odyssey.on.ca/~elaine.coxon/rubrics.htm

LessonPlanZ.com. (2000). Retrieved August 11, 2002, from http://lessonplanz.com/ (use 'rubric' as a search term)

South Dakota State University. (n.d.). *Rubric template.* Retrieved August 11, 2002, from http://edweb.sdsu.edu/triton/july/rubrics/Rubric_Template.html

Teach-nology. (n.d.). Rubric, rubrics, teacher rubric makers. Retrieved August 11, 2002, from http://teachers.teach-nology.com/web_tools/rubrics/

The Landmark Project. (n.d.). *Rubric construction set.* Retrieved August 11, 2002, from http://landmark-project.com/classweb/rubrics/4x4rubric.html

Surveys (examples)

The International Consortium for the Advancement of Academic Publication. (2002, May 15). *Resources for methods in evaluation and social research.* Retrieved August 11, 2002, from http://gsociology.icaap.org/methods/

University of Southern Indiana Sociology Department. (2002). *Social research and statistical links.* Retrieved August 11, 2002, from http://www.usi.edu/libarts/socio/stats.htm

Professional Organizations (examples)

American Council on the Teaching of Foreign Languages. (2002). Retrieved August 11, 2002, from http://www.actfl.org/

Council for Exceptional Children. (2002, August 9). Retrieved August 11, 2002, from http://www.cec.sped.org/

International Reading Association. (2002). Retrieved August 11, 2002, from http://www.ira.org/

International Society for Technology in Education. (n.d.). Retrieved August 11, 2002, from http://www.iste.org/

National Art Education Association. (n.d.). Retrieved January 3, 2002, from http://www.naea-reston.org/

National Association for Music Education. (n.d.). Retrieved August 11, 2002, from http://www.menc.org/

National Association for the Education of Young Children. (2002). Retrieved August 11, 2002, from http://www.naeyc.org/

National Council for the Social Studies. (2002). Retrieved August 11, 2002, from http://www.ncss.org/

National Council of Teachers of English. (2002, January 25). Retrieved August 11, 2002, from http://www.ncte.org/

National Council of Teachers of Mathematics. (n.d.). Retrieved August 11, 2002, from http://www.nctm.org/

National Middle School Association. (n.d.). Retrieved August 11, 2002, from http://www.nmsa.org/

National Science Teachers Association. (2002). Retrieved August 11, 2002, from http://www.nsta.org/

Bibliography

American Association for the Advancement of Science. (1993). *Benchmarks for science literacy.* Retrieved August 11, 2002, from http://www.project2061.org/ (choose Benchmarks Online).

ERIC Clearinghouse on Information and Technology. (n.d.). *ERIC database advanced search.* Retrieved August 11, 2002, from http://ericir.syr.edu/Eric/adv_search.shtml

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. (2002). *Standards- grademarkers- benchmarks.* Retrieved August 11, 2002, from http://www.hcde.org/standards/stindex.html

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

McAllister, D. A. (2002). *Teacher Preparation Academy.* Retrieved August 11, 2002, from http://cecasun.utc.edu/~tpa/tpa.html (also see http://cecasun.utc.edu/~tpa/mcallister/mcapage.html).

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.

Microsoft Corporation, Inc. (1994). *In and out of the classroom with Microsoft Works v. 4.0.* Redmond, WA: Author.

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 August 11, 2002, from http://standards.nctm.org/

National Research Council. (2000). *How people learn.* Washington, DC: National Academy Press. (see also http://www.nap.edu/readingroom/books/howpeople1/notice.html)

National Research Council. (1996). *National science education standards.* Retrieved August 11, 2002, 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.

Poppe, B., McAllister, D., & Richardson, L. (1998). *Science on the web: Web activities using scientific data.* Boulder, CO: Space Environment Center/National Oceanic and Atmospheric Administration.

Poppe, B., McAllister, D., & Richardson, L. (1998). *Science on the web: Web activities using scientific data.* Retrieved August 11, 2002, from http://sec.noaa.gov/Activities/index.html

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

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.
Roblyer, M. D. (2003). *Integrating educational technology into teaching* (3rd ed.). Upper Saddle River, NJ: Pearson Education, Inc.
Tennessee Department of Education. (2002). *Curriculum frameworks*. Retrieved August 11, 2002, from http://www.state.tn.us/education/ci/cistandards.htm
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.

Table of Contents – Fall 2002 EDUC 590

The Relationship Between Curriculum Planning and Pre- and Post-testing

Ryan Bandy

Fall 2002

EDUC 590

Dr. Deborah A. McAllister

Data Collection:

The researcher used a sample of 163 homogenous eighth grade middle school students. The students were all enrolled in the American history class at a local urban magnet middle school. The researcher started the project by giving the pre-test to all students in the sample group. The sample group was then instructed in the subject matter covered in the pre-test during the course of 2 weeks. After the unit of instruction was completed, the researcher used the post-test to analyze the differences in student knowledge prior to classroom instruction.

Results:

Over the last 100 years, educational pundits and researchers have incessantly investigated student learning in search of the most effective method for increases student learning and subject retention. For this study, the researcher is primarily concerned with how students react to a specific program of instruction. The researcher has analyzed the information gathered from the pre- and post-testing of a group of middle school students. The test/survey measures the amount of knowledge and information the student had previous to and after the inculcation of the unit of instruction. The researcher attempted to determine if the method of instruction used was effective in increasing student knowledge of the subject matter presented by the classroom teacher (researcher). The data collected from the surveys was analyzed and is given on the

following pages.

Findings

After reviewing the scores of both tests, clearly the post-test scores were much higher than the pre-test scores. The highest score on the pre-test was 62 out of a possible 100 points. The lowest score on the pre-test was 14. In contrast, on the post-test the lowest average individual class score was a 64.6%, and the highest average class score was 82.8%. Based upon the test results from both the pre-test and the post-test, the students clearly did not have a great deal of prior knowledge on the subject presented in the unit. After the material was presented by the teacher the majority of students made a significant gain in content area

knowledge.

Adjustments

Based upon the pre-test results the students clearly had little or no prior knowledge of the first 13 English colonies in North America. As a result, the teacher made certain that each colony was studied in-depth during the unit. The teacher provided the students with detailed notes of each colony including the date of each colony's founding, the leaders/founders of each colony, and the main reasons why each colony was founded. In order to engage the students, they were assigned a colony to present to the entire class using the software program, *Inspiration*. Their presentations had to include at least five pertinent facts about each colony. The students enjoyed this activity. Based on the student's presentations, there was learning accomplished during the project activity.

Other Uses for Pre-Test Results

The teacher could have used the pre-test results to limit the time spent on certain aspects of the material. Based upon the test results, the students did not have a problem recognizing the reasons why the colonies were founded. They did, however, have a problem identifying founders of each colony as well as the specific religious and political groups that inhabited each of the colonies.

Implications of the Post-Test Findings

The higher post-test scores indicate that the adjustments made in the teaching material were as least partly effective. Many students scored 100% and very few students scored below 70% on the post-test. Many of the students who scored below 70% on the post-test admitted that they had not studied for the post-test. Overall, the methods and strategies used to teach the material were sufficient. The students, who performed poorly, were students who were not in attendance in a large portion of the pertinent classes, did not complete the homework assignments, or did not study for the post-test.

Conclusions and Recommendations:

From the results of this research project, the following are given as recommendations: This research project would be more beneficial if it had included a longer and more heterogeneous group of students. The researcher believes that a more diverse group of students would more accurately gauge the accuracy of the research findings. The students who participated in the study were not heterogeneous in terms of socio-economic backgrounds. With regard to the research problem considered, the consensus of the relevant professional organizations is greatly varied. The National Education Association is closely associated with the ideas of the Columbia University, Teacher College and John Dewey. Their opinions on these issues are greatly opposed to the idea of greater accountability as proposed by President George W. Bush and his current administrative. The NEA and its followers are not in favor of the use of more standardized testing, which is the key to the Bush administrative education initiatives. The proper use of instructional techniques is a primary source of disagreement among almost all educational professionals

One recommendation that this researcher would make to classroom teachers on this subject is to maintain a policy of using pre- and post-testing as a way of monitoring student knowledge prior to teaching a unit of instruction and student development after the inculcation of students.

The availability of grant money for this type of research study is immense. Grant money is often made available by professional and private organizations in an attempt to better understand all the benefits of student instructional methods used by classroom teachers. Several institutions and foundations provide grant money for this type of research. The United States Department of Education, the Carnegie Foundation, and many other private groups currently offer grant money in this field of research.

Technology is an intriguing part of any current classroom teachers' instruction methods. There are numerous computer programs that can be used to allow students and teachers to better understand and present complex materials and subject matters. In addition, technology plays can play an important role in tracking student development by classroom teachers. Cygnus

Software has several programs which are excellent for supplement social studies instruction. Mahoney Interactive Software is also an excellent example of current software available to teachers and student. The Mahoney software programs aid students in social studies and other areas of study. The software is mainly used as a GED preparation tool, but is also usable in a regular classroom setting.

Class Period	Block 1 Day A	Block 3 Day A	Block 4 Day A	Block 1 Day B	Block 3 Day B	Block 4 Day B
Average Class Score	33.52	45.27	40.13	48.78	37.52	38.76
Highest Grade in Class	57	59	59	62	49	51
Lowest Grade in Class	14	35	30	32	19	24

Class Period	Block 1 Day A	Block 3 Day A	Block 4 Day A	Block 1 Day B	Block 3 Day B	Block 4 Day B
Average Class Score	71.04	70.27	65.04	82.8	68.43	64.63
Highest Grade in Class	100	100	97	100	97	97
Lowest Grade in Class	26	35	32	62	24	12

Can Exercise Improve Stress Levels for High School Students

Corey Hall

Fall 2002

EDUC 590

Dr. Deborah A. McAllister

A. Introduction to the problem

Many studies have effectively demonstrated the health benefits of regular exercise. It has been shown that including exercise in one's daily regimen can help individuals control their weight, blood pressure, and improve cardiovascular fitness. Recent studies suggest yet another good reason to engage in regular physical activity: Exercise may protect against the physical symptoms and anxiety associated with the hassles of daily life (Ben-Ari, 2000, p. 43-45). Researchers have investigated the effect of exercise on reducing subjects' responsiveness to stress. One study shows that the cumulative effects of minor, everyday stresses – such as having car trouble, or being late for work are actually more likely than major life events - such as divorce, or the death of a spouse (Ben-Ari, 2000, p. 43-45). Cindy L. Carmack (cited in Ben-Ari), of the University of Texas, and her colleagues focused on the possible moderating effects of exercise and physical or aerobic fitness on stress-related symptoms occurring from minor life events. The researchers' findings indicate that participation in recreational activities, such as running, basketball, or aerobics classes reduces the physical symptoms and anxiety associated with minor stresses. As a national issue, the researcher for this study is primarily interested in whether exercise training has any effect on reducing stress levels for high school students. As the investigator, I have produced a survey that measures both the amount of exercise training the high school student achieves and the student's level of stress.

B. Review of Literature

Sample

In an attempt to examine the relative roles of physical activity and aerobic fitness in stress reduction, Carmack and her colleagues used 135 undergraduate students for a sample. In another study, Georgiades utilized 99 men and women with high normal or unmedicated stage 1 to stage 2 hypertension. The purpose of the study was to determine the effects of exercise and weight loss on cardiovascular responses during mental stress in mildly to moderately overweight patients with elevated blood pressure (Georgiades, 2000, 16-19). In an ongoing study, Andersen is attempting to discover whether stress reduction can affect the outcome of women with breast cancer. For the past 3 years, Anderson and her colleagues have been enrolling patients into a randomized clinical trial for women with stage II or III breast cancer. About 140 women are in the study now, but enrollment is expected to reach 230 (Voelker, 1997, p. 537). In 1991, Brandon and Loftin used 8 women and 9 men who were recreational cyclists in a study that examined how aerobic forms of exercise effects chronic stress. To examine the role of exercise training in lowering stress responses, Blumenthal's study used 37 healthy type A males. In Blumenthal's (Blumenthal, Jiang, Babyak, & Krantz, 1997) second study, 58 predominantly male patients were used in an attempt to find solutions for preventing ischemia triggered by mental stress.

Treatment

In Georgiades' study, the subjects were randomly assigned to 1 of 3

treatments: aerobic exercise, weight management combining aerobic exercise with a behavioral weight loss program, or waiting list control group (Georgiades, 2000, p. 16). Women enter Andersen's study within days after surgery but before starting additional therapy. The women are randomly assigned to the intervention group or a control group. The intervention is conducted in a group support model and has several stress reduction components, including progressive muscle relaxation and techniques to enhance quality of life and social and emotional adjustments (Voelker, 1997, p535). For Blumenthal's study, the men were arbitrarily assigned to a strength and flexibility group with Nautilus training, or an aerobic exercise group with walking and jogging. All exercise was performed for 1 hour a day for 12 weeks.

Testing

In Carmack's study, 135 undergraduates completed questionnaires that measured recent minor stressful events, major life events, mood, physical complaints and symptoms, physical activity, and general health (Ben-Ari, 2000, p. 43). In Georgiades' study, subjects underwent a battery of mental stress tests, including simulated public speaking, anger recall interview, mirror trace, and cold pressor, before and after the 6-month treatment program. At enrollment, all of the women in Andersen's study receive a comprehensive psychological evaluation and extensive immunologic assays that assess natural killer (NK) cells, T cells, cytokines, and other measures of immune function (Voelker, 1997, p. 535). Anderson used NK cell lysis as an indicator of the stress-immune relationship. In

Brandon and Loftin's (1991) study, fitness was tested by cycle ergometric scoring. Psychometirc measures included the short version of the Beck Depression Inventory, the internal portion of the Multidimensional Health Locus of Control Scale, Spielberger's State-Trait Anxiety Inventory, and the Self-control Questionnaire. Blumenthal conducted extensive behavioral and physical testing on all subjects before exercise. At the end of the 12-week exercise program, the subjects were then retested. Blumenthal's second study was designed so that patients served as their own cases and controls. While being monitored for 48 hours, the patients recorded their activity and mood in a diary about three times each waking hour.

Results

Carmack's findings indicate that participation in recreational activities, such as running, basketball, or aerobics classes, reduces the physical symptoms and anxiety associated with minor stresses. Georgiades demonstrated that exercise, particularly when combined with a weight loss program, lower both resting and stress-induced blood pressure levels. Data from Anderson's study indicate that women with high stress levels have different and less favorable immune reactions compared to the women with low stress. In Brandon and Loftin's study, significant correlations were observed between fitness and the depression scores, internal locus of control, and self-control measures. The results tend to support the possible link between physical fitness and improved emotionality. Blumenthal stated that, for his study, the group that participated in the aerobic

exercise program scored more favorably on both behavioral and physical tests than the group that had Nautilus training. These results imply that there may be distinct advantages associated specifically with aerobic exercise in reducing stress levels, at least in healthy type A males. The results of Blumenthal's second study suggest that everyday mental stresses may trigger ischemia. Furthermore, Blumenthal suggests exercise, a nonpharmacologic intervention, for patients susceptible to mental stress-induced ischemia.

C. Data Collection and Results

To measure the independent and dependent variables in this study, the researcher constructed a survey that measures stress levels and exercise habits for high school students. The researcher had 27 students complete the survey. The researcher was able to collect specific data from the completed surveys. The responses to the questions about high school stress were totaled, and a number on the stress scale was circled to indicate a low, normal, or high stress score. The responses to the exercise questions were also totaled, and a number on the exercise profile scale was circled to indicate how often the participant exercises. These numbers were entered into the SSPS 10.0 program to figure a correlation between the stress scale score and the exercise profile score.

Results

Over the past several decades, researchers have continuously investigated the effect of exercise on reducing subjects' responsiveness to stress. For this study, the researcher is primarily interested in whether exercise training has any effect on reducing stress levels for high school students. The investigator has produced a survey that measures both the amount of exercise training the student achieves and the student's level of stress. The data collected from the

surveys was analyzed and is described below.

Ss	SSS	EPS
1	60	23
2	45	23
3	57	20
4	58	21
5	51	14
6	65	5
7	64	11
8	48	8
9	44	10
10	41	17
11	64	19
12	52	10
13	55	22
14	57	24
15	59	13
16	43	17
17	52	11
18	51	16
19	43	19
20	38	21
21	48	14
22	37	13
23	47	25
24	50	21
25	49	19
26	39	14
27	43	25

Legend:
Ss = Subjects
Stress Scale Score (SSS) = A score of 0 to 34 is considered low stress, between 35 and 69 is considered normal stress, and 70 to 100 is high stress.
Exercise Profile Score (EPS) = A score from 0 to 10 is considered rarely exercising, between 11 and 20 is sometimes exercising, and between 21 and 25 is frequently exercising. (Low score is 20, unless q is unanswered).

Mean of stress scale score = 50
Mean of Exercise Profile Score = 17
Level of Significance = .05
Statistic = .564

Legend:
Mean of Stress scale score = All the stress scale scores added together (1360) and divided by the number of participants (27)

Mean of Exercise Profile Score = All the exercise profile scores added together (455) and divided by the number of participants (27)

Standard Deviation = average distance each score in a distribution is away from the mean

Level of Significance = statistical reference point selected to accept or reject the null hypothesis

Statistic = 5% or .05 proposes that any event that can occur due to chance more often than 5% of

the time is probably due to sampling error and conversely, if the statistic can occur due to chance less than or equal to 5% of the time, it is probably not sampling error, but something real

D. Conclusions and Recommendations

A statistic of .564 represents that there was a correlation between exercise and stress for just over half the time. A stronger correlation may have existed if the researcher would have used a longer and more in-depth survey. A one-page front and back survey was used so the students would not be intimidated by a lengthy survey format.

From the results of this research, the following is recommended: The study should include a longer and more in-depth survey. The length of the survey used was one-page front and back. The researcher feels that a longer survey would more accurately measure the attitudes, beliefs, and feelings of the participants. By doing so, a stronger correlation between exercise and stress may result.

With regard to the problem studied, the consensus of my professional organization is that exercise can help to reduce stress levels. The studies from the literature review show favorable results in relation to exercise reducing stress levels. The duration of exercise sessions should range from 20 to 30 minutes. This type of study is associated with the exercise science field. I am a member of TAHPERD (Tennessee Association for Health, Physical Education, Recreation & Dance) that releases a journal where similar studies have been published.

One recommendation that I would make for teacher professional development is to maintain control over the effort that the students give and amount of time spent exercising. Students are more likely to experience benefits from exercise

by participating in a tightly monitored exercise session. Teachers lose control of student effort when students are given the opportunity to meet exercise requirements outside of class.

Several studies from the literature review were performed with the use of grant money. Grant money is often made available by professional fields wishing to understand all the benefits of exercise on the human body. These fields include but are not limited to medical, exercise science, and the health insurance industry.

Technology can be used by a physical education teacher to help the student record data while participating in exercise programs. Computer programs can allow students to keep a continuous record of exercise performed. Students would then be able to set goals and keep track of progress made towards the goals. For example, if students keep a log of how many miles they run over a certain period of time, this can be totaled and compared to the distance between two popular cities.

E. Copy of the Instrument

PERCEIVED STRESS PROFILE

This scale provides some information on high school stress. Instructions for scoring and interpreting the scale appear at the end of the questionnaire.
The following statements describe high school conditions, class environments, or personal feelings that students encounter during the high school experience. After reading each statement, circle the answer that best reflects your high school experience. If the statement is about a personal feeling, indicate the extent to which you have that feeling about your high school experience. The scale markers ask you to judge, to the best of your knowledge, the approximate percentage of time the condition or feeling is true.

NEVER = not at all true of your high school conditions or feelings
RARELY = the condition or feeling exists about 25% of the time
SOMETIMES = the condition or feeling exists about 50% of the time
OFTEN = the condition or feeling exists about 75% of the time
MOST TIMES = the condition or feeling is virtually always present

	NEVER	RARELY	SOMETIMES	OFTEN	MOST TIMES
1. How often do you worry about your grades.	1	2	3	4	5
2. Are you ever concerned about going to high school	1	2	3	4	5
3. Do you feel that you have good teachers.	1	2	3	4	5
4. How often are you overwhelmed with too many tests.	1	2	3	4	5
5. Do you feel that you have adequate time to study and do homework	1	2	3	4	5
6. Are you ever concerned about having to drop out of high school.	1	2	3	4	5
7. At the end of the day, I am physically exhausted from high school.	1	2	3	4	5
8. I typically feel burned out at high school.	1	2	3	4	5
9. I seem to have lost interest in high school.	1	2	3	4	5
10. I am nervous when talking to teachers.	1	2	3	4	5
11. There is no time for relaxation or lunch breaks at high school.	1	2	3	4	5
12. High school requirements are beyond the range of my ability.	1	2	3	4	5
13. I can't even enjoy my leisure because of the toll high school takes on my energy.	1	2	3	4	5

	NEVER	RARELY	SOMETIMES	OFTEN	MOST TIMES
14. My high school experience is preparing me for college.	1	2	3	4	5
15. The pace of high school is too fast.	1	2	3	4	5
16. If I had to do it all over again, I would still choose to stay in school.	1	2	3	4	5
17. My abilities are not appreciated by my teachers.	1	2	3	4	5
18. My work load is never ending.	1	2	3	4	5
19. There is obvious sex/race/age discrimination in high school.	1	2	3	4	5
20. I am not sure about what I will do after high school.	1	2	3	4	5

NOTE: Now go back and add the values for questions 1-20. Total _____

For this scale, you can gain some sense of how much high school stress you live with by locating your score on the scale provided below. On the scale, a high score means more high school-related stress,

- Low Stress - / - Normal Stress - / - High Stress –
Total 0-34 -/ -35 – 69 - / - 70-100 -

EXERCISE PROFILE

Please answer the following questions regarding your exercise habits. The scale is the same as above.

	NEVER	RARELY	SOMETIMES	OFTEN	MOST TIMES
1. I adhere to a regular exercise program.	1	2	3	4	5
2. I consistently exercise 2-3 times per week for at least 30 minutes.	1	2	3	4	5
3. Exercise is an important part of my life.	1	2	3	4	5
4. I am self-motivating when it comes to exercising.	1	2	3	4	5
5. I typically do not exercise outside of class.	1	2	3	4	5

Total _____
- Rarely Exercises - / -Sometimes Exercises - / - Frequently Exercises –
Total 0-10- / -11-20 - / -21-25 -

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Geography Evaluation

An Evaluation of a Pre-test/Post-test Learning Assessment of a Latin America Unit

Brad Irwin

EDUC 590

Dr. McAllister

December 5, 2002

Introduction

This project is an evaluation of a pre-test/post-test learning assessment. The learning assessment took place in a ninth grade world geography course at a public secondary school in an urban setting. The content material covered was the geography of Latin America. Latin America is an area of consideration in the ninth grade world geography curriculum. The content covers the regional, physical, human, and cultural geography of the Latin America region.

Review of literature

Geography is a discipline that is sometimes taught integrated with the social studies and sometimes taught as a separate academic discipline. Whether it is integrated or separate there is still the need for students to reveal if there has been adequate achievement. From this, teachers can gauge their effectiveness in teaching from observing student progress in geography (Ediger, 2001).

Forty-eight of the 50 states in the union use some form of a Criterion Referenced Test, therefore objectives for teachers to use in teaching geography have been written on the state level (Ediger, 2001). Three geography content areas serve as the core organizing structure of the NAEP (National Assessment of Educational Progress) for geography. The first content area is space and place, the second is environment and society, and the third is spatial dynamics and connections (Stoltman, 1997).

A central component of geography is developing a foundation for analyzing the interdependence of world nations. This can develop critical thinking and problem solving

skills. A students' better understanding of Latin America should result in an understanding of the region's world and regional interdependence (Dangle & Esler, 1994).

Evaluation of student performance is a tough task regardless of grade level, subject, or any factor. In attempting to evaluate student achievement there are several types of assessment tools to choose from. There are norm referenced tests which are used to judge progress from one year to the next. An example of this type of test is an achievement test such as the SAT (Scholastic Aptitude Test). Criterion referenced tests are used to measure progress toward a specific objective. These can be teacher designed or come from a publishing company. The ones that come from publishing companies often times go along with chapters in text books. Criterion referenced tests are the most common in educational classroom settings. However, a question that goes along with tests is whether or not students have gained knowledge over and above their prior knowledge baseline. A tool to assist with this is the pre-test/post-test technique. This technique is an attempt to measure real gain (Bancroft, 2001). The pre-test/post-test design is one of the more powerful evaluation designs. Also, it may be one of the most frequently used evaluation methods in social science (Oakes & Feldman, 2001).

Data Collection and Results

Data was collected prior to the teaching of the unit on the geography of Latin America. Students completed the pre-test without any assistance from outside materials or sources. The pre-test consisted of 15multiple choice questions (see Appendix A). Following the teaching of the unit, students completed the post-test without any

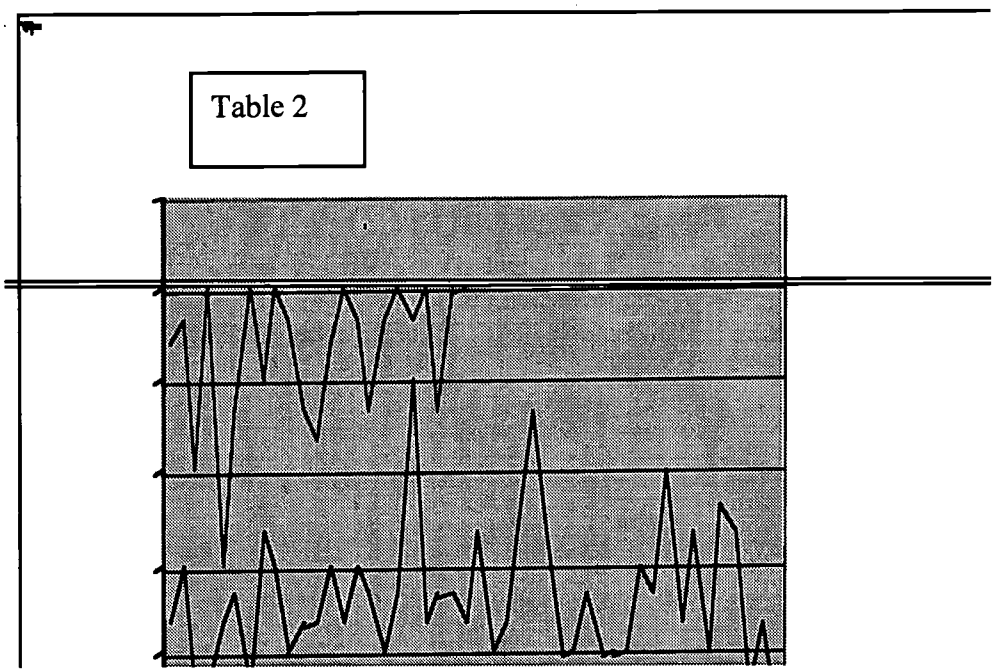
assistance from outside materials or sources. The post-test also consisted of 15 multiple choice questions (see Appendix B).

The pre-test showed that the level of knowledge prior to the teaching was not high. Table 1 shows the scores for each student. The mean score of all students was 32.35. The scores from the pre-test showed that the students needed a good foundation of the content area. The instructional approach was to start with the basics. This included vocabulary that was needed. Also needed was a basis in the physical geography of Latin America to include the areas involved as well as countries included.

The post-test findings showed the mean improvement of the students was 49.02. Table 1 also shows the improvement for each student. The overall mean score of the students on the post-test was 81.37. An unusual finding from the post-test was that two students actually scored lower on the post-test than on the pre-test. One student answered four correctly on the pre-test and three correctly on the post-test. The other student missed six on the pre-test and seven on the post-test. Two students improved their score eighty-seven points. Each student scored 100 on the post-test.

Table 1. Latin America Pre\Post Test Results

STUDENT	PRE-TEST	POST-TEST	Improvement
1	27	87	60
2	40	93	53
3	13	60	47
4	13	100	87
5	27	40	13
6	33	73	40
7	13	100	87
8	47	80	33
9	40	100	60
10	20	93	73
11	27	73	46
12	27	67	40
13	40	87	47
14	27	100	73
15	40	93	53
16	33	73	40
17	20	93	73
18	33	100	67
19	80	93	13
20	27	100	73
21	33	73	40
22	33	100	67
23	27	100	73
24	47	100	53
25	20	80	60
26	27	100	73
27	47	100	53
28	73	67	-6
29	47	80	33
30	20	33	13
31	20	33	13
32	33	100	67
34	20	93	73
35	20	80	60
36	20	93	73
37	40	93	53
38	33	60	27
39	60	73	13
40	27	80	53
41	47	93	46
42	20	87	67
43	53	100	47
44	47	100	53
45	13	60	47
46	27	20	-7
47	7	40	33
Average	**32.35**	**81.37**	**49.02**



Conclusions and recommendations

The evaluation of this pre-test/post-test of a central component of the geography course of study showed that there was a marked improvement of the students between the pre-test and post-test. The pre-test showed a general lack of prior knowledge of the content material. Proceeding the instruction of the Latin America content, the knowledge was improved.

There is still room for more improvement. This improvement could come from professional development on the part of the teacher. This professional development could come in the form of test constructing skills. There are a multitude of publications and resources available for educators in this area. The teacher could also develop more

teaching strategies geared toward multiple intelligences and learning styles. More content knowledge could also be an area of improvement on the behalf of the teacher.

The National Council for Geographic Education (NCGE) has a 3-year plan geared toward geography assessment. This plan includes standards which deal with place and location. Also, the NCGE has numerous workshops including ones that are geared toward assessment.

The National Council for the Social Studies (NCSS) has established a grant program. This program is labeled the Fund for the Advancement of Social Studies Education (FASSE). FASSE was created in 1994 by the NCSS to support research and classroom application projects which improve social studies education. One of the programs of FASSE is the Christa McAuliffe Reach for the Stars Award. This award is to assist classroom teachers in developing and implementing social studies teaching strategies, activities, and citizenship projects with their students. Another available program from FASSE is the FASSE Demonstration/Research Grant. It supports collaborative research between schools and universities on social studies education. These two programs could be utilized to support further research in the area of this project (http://www.socialstudies.org/fasse/).

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Appendix A

Name _____

Latin America
Pre-Test
World Geography

1. What are the three areas Latin America is divided into?

   A. North America, South America, Middle America
   B. East America, America, West America
   C. Middle America, Caribbean, South America
   D. Caribbean, West Indies, Hawaii

2. What is the official language of all Central American countries (except Belize)?

   A. English
   B. Spanish
   C. French
   D. Latin

3. The _____ separate the Caribbean Sea from the Atlantic Ocean.

   A. Hawaii
   B. Cuba
   C. Pacific Ocean
   D. West Indies

4. What is the largest city in Latin America?

   A. Mexico City
   B. Brazil
   C. Caracas
   D. Antigua

5. What is the largest country in South America?

   A. Mexico
   B. Brazil
   C. Chile
   D. Venezuela

6. The world's longest mountain range is the _____?

   A. Sierra Madre
   B. Llanos
   C. Andes
   D. Brazilian Highlands

7. A _____ is a long cliff between a higher and lower surface.

   A. Strait
   B. Llanos
   C. Sierra
   D. Escarpment

8. What is the heaviest populated area in Latin America?

   A. Antigua
   B. Central Chile
   C. West Indies
   D. Caracas

9. Large, fertile plains which run along the Caribbean coast of South America where cattle are raised are called _____.

   A. Sierra Madre
   B. Llanos

C. Pampas D. Altiplano

10. A _____ climate has hot summers, cold winters and light rainfall.

A. Tropical B. Steppe
C. Humid D. Mediterranean

11. Evergreen trees form a _____ which keeps the sun from reaching the floor of the forests.

A. Roof B. Canopy
C. Tierra D. Llanos

12. Tierra calienta means _____.

A. Cold country B. Temperate country
C. Moist country D. Hot country

13. Using water to produce electricity is called _____.

A. Hydroelectricity B. Electrodes
C. Hydrostatic D. Electrolysis

14. Most of Latin America is a _____ climate type.

A. Humid B. Tropical
C. Steppe D. Mediterranean

15. The mouth of the Amazon River is in _____.

A. Chile B. Brazil
C. Mexico D. Argentina

Appendix B

Name _____

Latin America
Post-test
World Geography

1. What are the three areas Latin America is divided into?

   A. North America, South America, Middle America
   B. East America, America, West America
   C. Middle America, Caribbean, South America
   D. Caribbean, West Indies, Hawaii

2. What is the official language of all Central American countries (except Belize)?

   A. English
   B. Spanish
   C. French
   D. Latin

3. The _____ separate the Caribbean Sea from the Atlantic Ocean.

   A. Hawaii
   B. Cuba
   C. Pacific Ocean
   D. West Indies

4. What is the largest city in Latin America?

   A. Mexico City
   B. Brazil
   C. Caracas
   D. Antigua

5. What is the largest country in South America?

   A. Mexico
   B. Brazil
   C. Chile
   D. Venezuela

6. The world's longest mountain range is the _____?

   A. Sierra Madre
   B. Llanos
   C. Andes
   D. Brazilian Highlands

7. A _____ is a long cliff between a higher and lower surface.

   A. Strait
   B. Llanos
   C. Sierra
   D. Escarpment

8. What is the heaviest populated area in Latin America?

   A. Antigua
   B. Central Chile
   C. West Indies
   D. Caracas

9. Large, fertile plains which run along the Caribbean coast of South America where cattle are raised are called _____.

A. Sierra Madre
B. Llanos
C. Pampas
D. Altiplano

10. A _____ climate has hot summers, cold winters and light rainfall.

A. Tropical
B. Steppe
C. Humid
D. Mediterranean

11. Evergreen trees form a _____ which keeps the sun from reaching the floor of the forests.

A. Roof
B. Canopy
C. Tierra
D. Llanos

12. Tierra calienta means _____.

A. Cold country
B. Temperate country
C. Moist country
D. Hot country

13. Using water to produce electricity is called _____.

A. Hydroelectricity
B. Electrodes
C. Hydrostatic
D. Electrolysis

14. Most of Latin America is a _____ climate type.

A. Humid
B. Tropical
C. Steppe
D. Mediterranean

15. The mouth of the Amazon River is in _____.

A. Chile
B. Brazil
C. Mexico
D. Argentina

Analysis of a Pre-Post Test

for the unit The Five Senses

Patti Lewis

Education 590

Deborah McAllister

Fall 2002

The assignment on this particular rainy day at a suburban elementary school was to observe a rock. The students were asked to feel the rock and to decide if it was smooth or rough, heavy or light. They were asked to look at the rock and decide its color and texture. They were asked to identify any unusual markings. The students were asked to drop the rock and listen to the sound it made when it hit the floor. The students were using their eyes, ears, and hands to make their observations.

In the *Hamilton County Department of Education's Standards and Benchmarks,* teacher's are advised that students should investigate the world around them through observations. Every grade from kindergarten through twelfth grade includes *Standards or Benchmarks* stating students make observations. It is nearly impossible to make observations without the use of the five senses.

The topic for this study is a unit based on the five senses. It is a topic that was selected by the school for every kindergarten student to learn. It is a topic that was assigned to kindergarten student teachers during the first 8- week placement.

In the National Science Education Standards, Content Standard A for K-12 states that students be taught to make observations (Checkovich & Sterling, 2001) . In the state of Tennessee, Theme 1:1 Observing of the Science curriculum states that senses are used to develop an awareness of events or objects and their properties (Tennessee State Department of Education, 2001). This standard is not exclusive of kindergarten students but to every student K-12 grade.

There are multiple ways to teach about the five senses. This unit focused on using children's literature and information texts to teach literacy skills and also to teach facts about the sense of sight, sound, touch, taste and smell. The National Association for the

Education of Young Children believes kindergartners need to be exposed to vocabulary from a wide variety of genres, including informational texts as well as narratives (Richgels, 2002). The University of Tennessee at Chattanooga education professors also strongly urge student teachers to use informational texts when presenting a lesson as well as literature from a wide variety of genres.

The five senses unit was designed to teach one of the five senses per day for 5 days. For every sense that was introduced, a fiction and non-fiction book was used. Information books about that sense were also placed in the listening center and rotated on a daily basis. The kindergarten students were engrossed in the informational books as they showed diagrams and listed parts of the ear, nose, eye, and mouth, and explained how we feel pain, cold, heat, etc. Students were associating these texts with their everyday lives. They engaged in lively conversation with one another about the way in which the senses work. Kindergartners can consult informational books, even those they cannot read verbatim, to answer questions that arise in discussions (Richgels, 2002).

Another strategy that was used during the five senses unit was interactive read-alouds. This strategy is the use of fiction and non-fiction literature to convey content in a thematic unit such as the five senses. Books were read on a daily basis on one of the five senses. The students were encouraged to verbally interact with the teacher and their peers. They did not assume the role of a passive listener. One reason this strategy was used was to create opportunities for students to connect the story to their personal lives and for the teacher to explore the connections that the students have made (Barrentine, 1996).

The students actually looked forward to the morning read-aloud time. They were given the freedom to discuss personal connections to the literature and to learn from one another. They were able to use higher order thinking skills to examine questions posed to them. They were becoming proficient users of language by using feedback, conversation and engagement (Barrentine, 1996).

Literature is important to any thematic unit. The five senses unit was designed to introduce the students to many different kinds of books. Children who were verbal and visual learners greatly benefited from this approach. The curriculum was also designed to appeal to those children who liked to work in groups, liked music and movement, to those who liked to draw and for the math learners. The theory of multiple intelligence proposes eight ways of knowing about the world (Carlisle, 2001). These include verbal linguistic, logical mathematical, visual spatial, bodily kinesthetic, musical rhythmic, interpersonal, intrapersonal and naturalist. The curriculum for the five senses unit was written with each of these intelligence in mind. The students were able to read, write, sort and classify objects, produce art work, work in a science center and were given the freedom to dance, march and learn new songs. Merely applying the concept of multiple intelligence learning to an early childhood curriculum does not provide balance or increase diversity in learning experiences (Carlisle, 2001). Using the category approach inherent in the multiple intelligence theory to assess learning opportunities within a curriculum allows teachers to clearly identify the types of learning challenges they present to children (Carlisle, 2001).

Perhaps the most effective teaching strategy in the five senses unit was taking the students outdoors to explore. They were given the opportunity to use their sense of sight,

sound, smell and touch to learn about their surroundings. Children learn outdoors by interacting with other children, with adults, and with objects and natural materials. The outdoor environment gives children a chance to explore, question, and develop theories about how things work (DeBord & Hestenes, 2002).

As stated previously, the five senses unit introduced a sense a day for 5 days. A pre-test (see Figure 1) was given on September 12, 2002 to determine how much the students knew about the senses. The results of this pre-test can be found in Figure 2. The pre-test was an oral test since kindergartners are not proficient in reading and writing. The educator asked 20 students - 9 girls and 11 boys - to look at the picture of a man's face. The educator asked each child to point to the man's eye and tell its function. The students were asked about the man's ear and its function. The educator continued on with the nose, mouth and hand. The results of the pre-test showed the students knew more about the sense of sight and smell and less about the sense of sound, taste and touch. The instructional objectives for the unit, however, were not adjusted according to the pre-test.

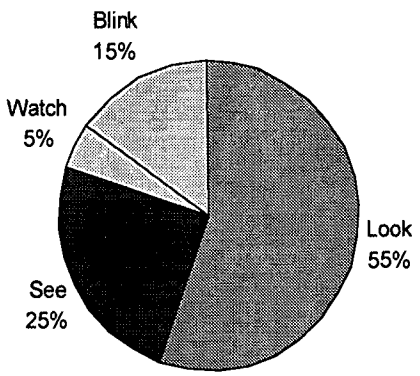
The first day of the unit taught about the sense of sight. The students were read two books - one fiction and one nonfiction - on the sense of sight. After much discussion about the eye and its function, the students were paired and given a sight sheet. This sight sheet showed 10 objects that could be found around the room. These objects were the American flag, the letter F, a wall clock, a classmate's eye, a television, a penny, a bookcase, a waste can and the letter M. The students walked around the room until all 10 objects had been located. The students then re-assembled to discuss their findings and to talk about strategies they used in locating the objects. They discussed how without their sense of sight, the assignment would have been difficult. In addition, the students

participated in a math lesson to graph the class eye color. Each student was given a square of construction paper that matched their eye color. They placed the

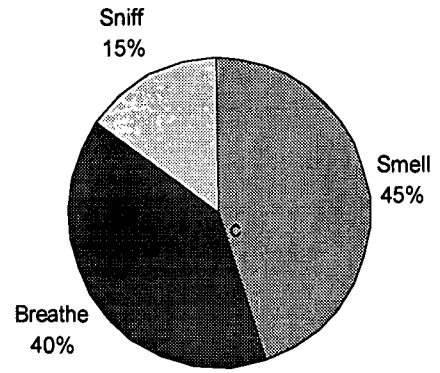
Figure 2. Pre-Test for The Unit The Five Senses.

What is the function of each sense?

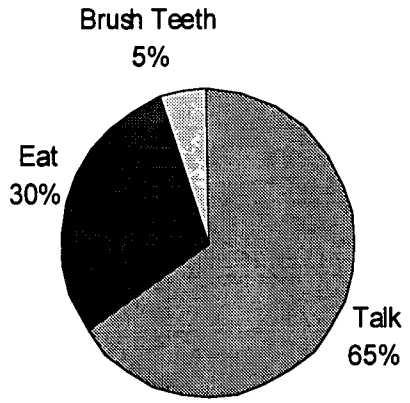
Sight



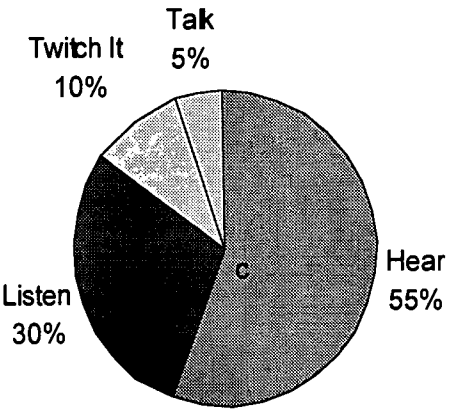
Smell



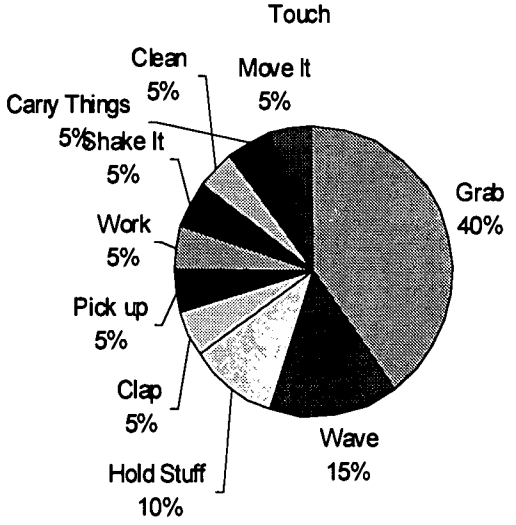
Taste



Sound



Touch



square under the heading - GREEN, BLUE OR BROWN. Through this activity, it was determined more students had brown eyes than had blue eyes.

The second day of the unit explored the sense of hearing. The students listened to two stories: *The Listening Walk* and *The Sound Book*. The first book was fiction and the second was nonfiction. The students discussed the sense of sound and how they use their sense of hearing. The students then participated in an activity designed to discover the class favorite sound. Five sound objects - a bell, a whistle, a piece of foil, a harmonica and a hair dryer - were placed behind a curtain. Each object was demonstrated to the class as they tried to determine the source of the sound. Each student was asked to select his/her favorite sound and the results were graphed on chart paper. The class favorite was the harmonica. The sounds were then demonstrated with the students holding their hands over their ears to determine the difference in sound. The kindergartners re-assembled to discuss the activity and the different sounds they hear in their everyday lives. The lesson was assessed by the educator by listening to the dialog of the students when they were asked the following questions: How do we communicate with each other? What part of the body do we hear with? Could you communicate if you could not hear? How? How would you feel if you could not hear? Why?

The third lesson addressed the sense of taste. Again, a fiction and a nonfiction book were read to the students on the sense of taste. The educator showed the children a picture of a tongue and labeled the parts that detected bitter tastes, sweet, sour and salty tastes. The students were given the instructions for a taste test in which they were to taste eight foods. The students were to complete a taste sheet and mark if they liked the food or disliked the food. The foods served were pickle, lemon, pretzel, potato chip, bitter

chocolate, orange peel, jelly bean and a mint. The educator found that most kindergarten students do not like trying new foods. Though the policy at the school states that every student must try the food, some students were hard to persuade. A wrap-up activity followed the taste test by asking the students the following questions: What are the four familiar tastes? What part of the body do we use to taste? How does taste help us select and enjoy food? What would happen without the sense of taste? What are some things that should not be tasted?

Ouch! That Hurts! was the title of the lesson on day four. The students explored the sense of touch. After a read-aloud session that included the book *My First Look At Touch,* the educator asked the students to think what hair feels like when it is cut. Do fingernails hurt when they are cut? Does your skin feel hot and hurt when it is sunburned? The lesson focused on the sense of feeling and the many parts of the body that have feeling. The students then gathered in a circle and the educator passed around two paper bags. One bag contained a piece of sand paper (rough object) and one bag contained a piece of cotton (soft object). The students had to determine what was in the bag by using the sense of touch. A concept web was drawn on chart paper and the students charted objects that were soft, hard, rough smooth, and bumpy. As an assessment activity, the students were instructed to draw two pictures of an object that was soft, hard, rough, smooth and bumpy. The students were then asked to use invented spelling to write the words of the pictures they had drawn. The conclusion to the lesson included a discussion of the following questions: What part of the body do we use to touch? What would your life be like if you could not feel? What are the consequences? How does the sense of touch alert us of danger?

The final lesson of the Five Senses unit was exploring the sense of smell. Students were asked: What part of the body do we use to smell? Why is the sense of smell important? Can smell warn us of danger? Can the sense of smell tell us when food is good or bad? How? A whole group session followed with the reading of the book *Ferdinand* and a non-fiction book about the sense of smell.

The next activity was introduced as the words GOOD and BAD were placed in a pocket chart. Pictures of good smells and bad smells were passed to the students. They placed their cards under the heading GOOD or BAD and told the class why they made that decision. The lesson concluded with the students answering the following questions: How can smell warn us of danger? Describe the best smell you can think of. What part of the body do we use to smell? How does the sense of smell help us enjoy life?

A post-test was given to the students at the conclusion of the 5- day unit. The post-test was the same test as the pre-test. Again, the test was given orally. The educator asked the same 20 kindergarten students to locate the eye, ear, mouth, nose and hand located in the picture. All 20 students were able to complete the task. The educator then asked the students to tell the function of the eye. All 20 students were able to correctly state the function of the eye was to see. All 20 students were also able to correctly state the function of the nose - to smell - as well as the correct function of the ear - to hear. See Figure 3.

The pre-test results for the function of the mouth concluded the kindergartners thought its function was to talk (65 percent), eat (30 percent) and brush your teeth (5 percent). None of the 20 students tested correctly identified the function of the mouth as the sense

of taste. The post-test results showed all 20 students could correctly identify the function of the mouth is to taste.

Eighty-five percent of the kindergarten students tested at the end of the unit gave the correct function of the hand - the sense of touch. Other answers included grab stuff (5%), pet a dog (5%) and pick up things (5%).

Based on the results of the post-test, the unit on the five senses was a success. The students were able to correctly identify the body parts and the function of the five senses. The educator feels the use of the sight test, the sound test, the taste test and the touch activity were contributing factors to the success of the unit. The kindergarten students continued to talk about the sound test, the taste test and the lesson on touch for many days after the completion of the unit.

Many teaching strategies were used in the unit of the five senses. The students were exposed to many types of literature, and they were engaged in shared reading and read-aloud sessions. They had the opportunity to learn in a variety of ways - the unit tapped on all of the multiple intelligences. They were able to explore outdoors and learn about the world around them. They were taught to make observations. All of these strategies are important in making sure a student is successful in learning.

Teaching or reteaching these strategies to educators in professional development sessions would be invaluable. Training could be provided in guided reading and guided writing activities. Training could also be provided for educators on various ways to create sight lessons, sound lessons, taste lessons, touch lessons and lessons on the sense of smell.

Much has been done to ensure that students learn through making observations. Learning to read is a large part of that strategy. The new education law - No Child Left Behind - signed by President George Bush on January 8, 2002 includes a program called Reading First. It is a $6 billion program to produce high quality comprehensive reading programs to students in K-3 grades. Beginning in 2002-2003, state school systems will be held accountable for their students being able to read. The state will also have the freedom to direct federal money to areas that need improvement and local people will have a say in programs to help their students.

On a local level, Dr. Linda Smith, UTC Assistant Professor, was awarded a grant in 2001 entitled *How To Read with Your Child.* The grant was used at a local urban elementary school. UTC faculty and the school reading specialists trained faculty and parents on strategies and hands-on exercises to help children read. Reading software was purchased through the grant and the software was demonstrated at the school. Test scores in grades K, 1, 2 and 5 showed improvement in reading skills. Dr. Smith feels the effects of the program will be felt for years to come as parents learn strategies for working with children in the home on reading.

The Internet is also a good place to look for good ideas on reading to children. There are many good sites available to teachers, students and parents to help in the reading process. There are also many good sites available to help teachers plan and implement lesson plans such as The Five Senses. One of these sites can be found at www.sedl.org/scimath/pasopartners/senses/lesson5.html.

Students, no matter how old, can enjoy lessons on the Five Senses. Teachers can help students learn the process of how to make productive observations. Teachers can provide

this opportunity in everyday school situations throughout the day. Teachers can model good observation skills. Hopefully, if the educator has done his job well, the next time a student is asked to observe a rock, the room will be filled with wonder.

Figure 1.

Point to the man's eye, nose, mouth, ear and hand.
What is the function of the eye, nose, mouth, ear and hand?

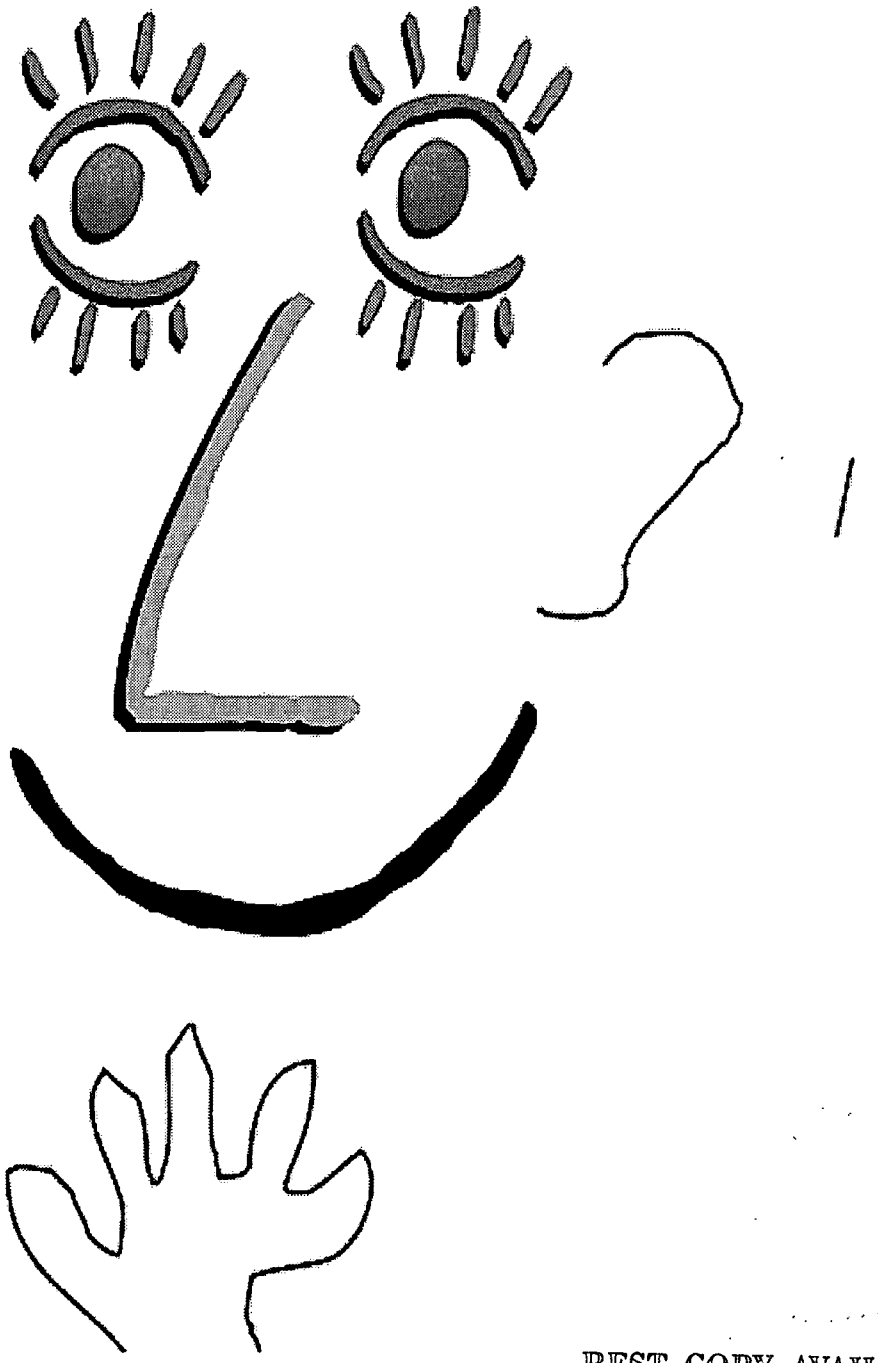
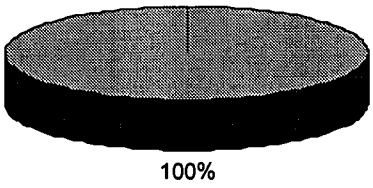


Figure 3. Post-test for the unit The Five Senses.

What is the function of the eye?

sight



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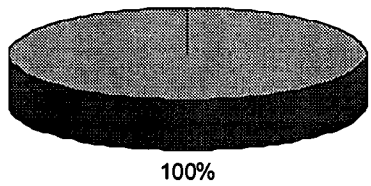
What is the function of the ear?

hearing



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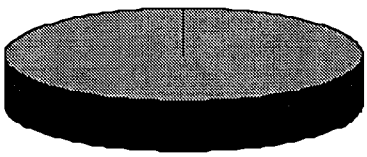
What is the function of the mouth?

taste



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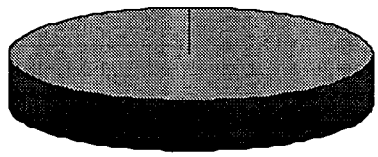
What is the function of the nose?

smell



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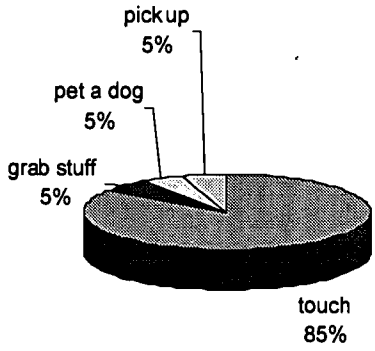
What is the function of the hand?



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Pre- and Post-Test Analysis for U.S. History: Chapter 2

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Fall 2002

EDUC 590

Dr. Deborah A. McAllister

PRE-TEST FOR CHAPTER 2

1) WHAT WAS THE NAME OF THE LAND BRIDGE THAT CONNECTED ASIA AND AMERICA?
2) DEFINE GLACIER:
3) DEFINE CULTURE:
4) WHAT IS THE NAME OF A PERIOD WHERE LESS PRECIPITATION FALLS CAUSING LONG TERM EFFECTS?
5) NAME OF NORTHERN NATIVE AMERICAN SHELTER MADE OF ICE.
6) NAME OF LOCAL TRIBE THAT USED TO CALL OUR AREA HOME.
7) WHAT IS A REGION IN WHICH PEOPLE SHARE A SIMILAR WAY OF LIFE?
8) A FARMING TECNIQUE USING STEP LIKE PLOTS TO GROW CROPS, TAKES PLACE ON STEEP HILL SIDES.
9) NAME THE TWO MAJOR NATIVE AMERICAN GROUPS THAT LIVED IN WHAT IS NOW MEXICO.
10) NAME THREE NATIVE AMERICAN WORDS WE USE TODAY.
11) A CONE SHAPED TENT MADE OF BUFFALO HIDE.
12) HOUSE MADE OF SUN DRIED BRICKS.

POST-TEST FOR CHAPTER 2

1) WHAT WAS THE NAME OF THE LAND BRIDGE THAT CONNECTED ASIA AND AMERICA?

2) DEFINE GLACIER:

3) DEFINE CULTURE:

4) WHAT IS THE NAME OF A PERIOD WHERE LESS PRECIPITATION FALLS CAUSING LONG TERM EFFECTS?

5) NAME OF NORTHERN NATIVE AMERICAN SHELTER MADE OF ICE.

6) NAME OF LOCAL TRIBE THAT USED TO CALL OUR AREA HOME.

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11) A CONE SHAPED TENT MADE OF BUFFALO HIDE.

12) HOUSE MADE OF SUN DRIED BRICKS.

I chose to do a pre-test analysis for my first placement. The reason I chose this is because it would be useful for both the students and the instructor. I also felt that by analyzing my results carefully I could gain more knowledge about my tests and my possible effectiveness as a teacher. Pre-tests and post-tests are often seen as a waste of time. I have been taught and heard from many professors that pre-tests and post-tests are useful tools and can help a teacher become more effective. Since becoming an effective teacher is a major goal for my career, I thought it would be a worthwhile experience to analyze these tests as fully as possible. By taking the extra steps and seeing the results I will be able to better prepare myself for future pre-tests and make the experience a part of every lesson. Practice makes perfect, and what took quite a bit of time can be condensed and still be effective. I am committed to making this testing procedure a part of my curriculum and believe it will be a wonderful addition.

The classes that I presented my pre-test to were 8th grade United States history classes at a local suburban middle school. The classes are a general mix of male and female, being mostly Caucasian and consisting of between 25 to 30 students in each individual class. Each class lasts 50 minutes and all classes are separated by a 5-minute break. There are two different history teachers and my coordinating teacher did not use any pre- or post-testing. This instructor was under the impression that these are a waste of time for the teacher and the student. After my time in his classroom, and working side by side with him, he now feels that pre- and post-tests are a good idea. He has also developed a better understanding of the tests and understands that they are a tool for the

teacher and not a waste of time for the student or instructor. I attribute this in part to my experience with the students in giving these tests to the students while I was there.

The purpose of the pre-test (any pre-test) was to determine the prior knowledge of the students. How well prepared are they? In this case we were discussing pre-Columbus Native Americans and how they arrived in the Americas. The results that I hoped to see were that they knew a little about Native Americans in our area and how the Americas where populated, but I did not have expectations that the students would have much knowledge outside of the Tennessee area. With this information, I hoped to fine-tune my lesson plans to better meet the students' needs and not spend much time on issues that the students had a good grasp on.

The biggest problem with this pre-test was finding worthwhile literature for the history class. After reading countless articles and using library and search engines I found almost nothing on pre- and post-testing with concerns to history or geography. The search engines turned up almost nothing and what did come up was under the broad area of pre and post testing. Other areas such as math, economics and science had countless articles on pre- and post-testing. I did not use these articles since they tended to be on exact subjects (subjects with one correct answer), and I felt that since history is often open to interpretation, and that these articles did not fully assist in the knowledge of the subject. Still through reading many of these articles I am sure many ideas were helped, influenced due to theses articles. It was very disappointing to see that there was no research in this area of pre- and post-testing for history. I believe I used the pre- and post-test effectively in the history classroom and feel that the results were very effective

in the development of my lesson plan. This is an area that needs to be explored and tweaked to develop a system that will be successful when used properly.

There are also a lot of opportunities to use technology in the classroom concerning this subject. I found no specific group that would fund pre-testing but there are many grants available that can assist any worthwhile educational idea. National Geographic Society has funded many different ideas, and pre-testing is something they could possibly fund effectively. Imagine a computer based test the students took at the beginning of the year and then again at the end of the year. If set up correctly, the teacher might be able to use this tool to effectively gauge where the students are compared to the rest of the county, state or nation. If constructed correctly both the geographic community and the instructor could receive great feedback to see where many strengths and weaknesses may be located. Groups like National Geographic are very interested in helping students and teachers and this is a group that could be used very effectively.

I used several sources of information for the test while developing the pre-test. The first item that I used was my own knowledge of the Native Americans in our area. I have talked to historians and read many books on Native Americans from this area and enjoy the subject. The second main source was the textbook, which contained a somewhat decent chapter on the subject, especially on the migration pattern, which is of great interest to me as a geographer. I wanted the test to ask specific, as well as general questions to gauge the student's knowledge of the subject. This was a way for me to know their true knowledge and not just the memorization of information that they could pull from possible previous work on these subjects. The test that I prepared was short answer and not multiple choice, as guessing would now be minimized. While developing

the test, I paid close attention to the need for quantitative data so that the figures could be computed between the pre- and post-tests. The other aspect was to make the test as short as possible so the students would not lose interest. If the students lost interest they would stop answering the questions effectively.

I administered the test on the first day that I was solo in the classroom. The students did not respond well and I refused to tell them that it was not going to count as an actual test score. Instead, they were told that this was a pre-test and that they were to be graded on their effort. I was hopeful that this would get the students to take a serious approach. The test consisted of 12 questions including 1 question that probably should have been eliminated, but I chose to keep. The students were given 10 minutes to complete the test, which was provided to them via overhead projector. They were allowed to ask questions, but were to receive no hints and could not use their textbook. This set up was repeated for all four classes throughout the day and all of the data was added as if there were just one class.

The results were computed with a total of 122 students having taken the test. Dealing strictly with the pre-test there were a possible 1,464 correct answers. The students got 362 correct and the average grade was 24.7%. This was to be expected, but I was hopeful that there would be a higher average. Some of the questions seemed to me to be common knowledge. The answers to the questions about local Native Americans were especially surprising. They were designed to give the students some easy questions and did not pertain to anything in the chapter. Still, assumption is a dangerous game to play and should not be used. However, a 24.7% average was going to make improvement fairly easy.

Students did find the test very challenging. This was a surprise since some of the questions were definitions that they had been exposed to the previous year, in seventh grade World Geography/Tennessee History. Some answers were well thought out and many of the answers were incorrect but showed some knowledge of the subject. Even though the answers were wrong, the fact that the answer was thought out makes an interesting observation because it means the students took the test seriously and gave their best efforts. There were three definitions that the students did not do well on. Glacier, teepee and igloo were the terms that I felt should have been known by more students, but many missed these questions. This tells me that the previous year, there was not an adequate amount of time spent learning their physical and cultural geography. Still, these were the most correctly answered questions with 70% knowing the definition of teepee, 49.2% knowing the definition of glacier and 60% knowing the definition of igloo. The most difficult question was on cultural region. Only 0.82% where able to answer this correctly and this was no real surprise since this was something that the students had never been exposed to. The other hard question pertained to defining culture. Only 26.2% were able to answer this question correctly. This was surprising because I thought more students would know the answer. I believe they were aware of the answer, but were unable to put it into words. The answers that I received in regards to the local questions on Native Americans were also a surprise. The students were asked to list several Native American words that we use today. It turned out that this is an interesting question in that it taught me as well. I feel that it was unfair because I had no way of knowing every word that originated from Native Americans and could not give a fair amount of points. I actually put myself in a tight position. Students could put any

answer and I had no real way of telling if it was Native American in origin or some other origin. They could have put any answer down and I would have to give them credit for that answer. Luckily the kids either had words I recognized or they left it blank. No words listed were a problem. I decided to keep the questions because we would be discussing the subject and because our state and city names both originated from Native American words.

The only other item that concerned me was the length of the test. The students seemed to lose interest further into the test and no longer focused on the material. I believe that I could improve the test by asking fewer questions and making them more thought productive. Still, the pre-test was designed to measure knowledge in a short amount of time and I believe that this test accomplished this objective. The only thing needed was the post-test results, showing how the students improved and for me to make changes to the lesson plans to adapt to the students needs.

There were a few major changes in my lesson plan as a result of the pre-test. I spent much more time on the definitions and physical geography section than I originally intended to. I had assumed (always a dangerous word) that I would not have to spend much time on the definitions, but with the pre-test results, I definitely saw a need to learn some key terms. We also spent more time on our local Native Americans. I had not originally planned to spend any time on the local area, except what was covered in the textbook; however, I felt that the students needed to know some of the rich history concerning Native Americans in East Tennessee. This lesson turned out to be my best lesson and one that I can teach on any level. The lesson was also the most humorous to teach and the students really enjoyed the subject. The one other item that I emphasized

was migration. This is something that I had planned to teach anyway, but the students never really seemed to grasp the concept that all Native Americans migrated from Asia. Even when we covered the subject, they seemed very perplexed by this and had numerous questions. I never made a change from this and should have seen it coming. Only 3.28% of the students were able to name the land bridge connecting Asia and North America. I included this because I failed to see that there might be an issue here, and even though I did not prepare for this, the students corrected my oversight.

I administered the post-test in the same manner as the pre-test; using the same 12 questions on an overhead with 10 minutes to complete the test. I did grade much harder than previously, which makes the test harder, but I felt that this was necessary for proper judgment on the students' knowledge of the subject matter. The students were very vocal and excited for this test because they were being given a daily grade on this test. Most felt that it was an "easy 100," but a few were still upset, mainly by the work that was necessary.

Overall I felt that the students did very well (see Fogire 1). I was disappointed by the average being a 72.6%. I felt that the average should have been much higher, but there were some very positive results. Questions concerning the land bridge improved almost 90%. I was very impressed by the results and felt that it improved a great deal. The other major development was in defining cultural region. An improvement of 80% was a much better result than the previous 0.82% that I previously received. These improvements involved teaching from the pre-test results and adjustments of lesson plans that allowed full understanding of the student's knowledge level. I also used the post-test

results for reteaching purposes. This is also important because it gives the teacher a chance to review what the students have learned and what they may need more time on.

There were also a couple of results that I thought were disappointing. Only 57% of the students knew the definition of drought. While this was an improvement over the original 13%, I felt that more students should have improved. I did go back and reteach this definition as part of a lesson later on, even though the definition was not a part of the chapter that we were studying at the time. The most amazing negative result was only 45.7% of the students were aware that the Aztecs and Mayas were in Mexico. This was totally unexpected because we spent three days and watched a video on these Native American groups. This question was also addressed on their chapter test and the majority of the students were correct in their answer. I was totally caught off guard by the students' answer to this question. My only conclusion is that the question may have been confusing; but neither I, nor my cooperating teacher, could see how that could be. I spent some immediate time reteaching the subject and the students still seemed to know the answers. To this day, the exact reason is a mystery. Still, I will have a great chance to reteach when we talk about the Spanish exploration and conquering of these Native American tribes in the next chapter.

The graph that follows (see Figure 2) represents each question and the pre-test verses the post-test. This graph shows each question and the percentages of the answers correct. I used percentages because there were different people present and absent the days of the pre- and post-tests and percentages negate these differences. As you can see, every question showed an improvement and while some were better than others, some were disappointing. The overall goal of the test was met by improving scores and

averages. While no teacher should be satisfied unless everyone gets a perfect score, I believe that the graph shows a significant improvement. A few questions even reflect 100% correct answers. The graph visually shows that this is a great improvement overall. It also shows where more improvement can be made. This tool is one that has benefited me as much as anything else. By being able to see the improvements, I can visualize how well the students have done and how much more improvement they are capable of.

Overall the results of the test were predictable by nature, but very useful for me as a teacher. I was able to see what the students had previously been exposed to and what they were in need of learning. By doing this, I was surprised to note that the test was not a very good test. I felt that I failed in several key areas. The test itself, in theory, was successful in its goals, but could have accomplished more with power packed questions. The questions that I should have asked should be similar, but more inquiring in the sense that the test should ask questions that the students have to give a great deal of thought to. I do believe that some short answer questions, such as definitions, need to be on the test, but the bulk of the knowledge needs to come from deeper thought. Still, the test must stay with the notion that it is a tool for determining knowledge and needs to be relatively short. This happy medium is what needs to be obtained and can only come from trial and error. In this case I believe that the test's goal was successful, but the test was a failure in the sense that I could have done more.

In conclusion, the pre-test did measure the students' knowledge. It helped me develop my lessons to better serve the students. I have been fortunate enough to learn from my errors. The test could have been better prepared, and in the future it will be my

responsibility to make sure that it is. This is a tool I believe in and can only benefit all that are involved.

QUESTION #	PRE	POST
1	3.2	92.3
2	49.2	57.3
3	26.2	48.3
4	13	57.6
5	60	100
6	12.3	72
7	0.82	82.2
8	21.3	80.5
9	9.8	45.7
10	17.2	80.5
11	70.5	100
12	13.1	52.5

Figure 1.

QUESTION # -REFERS TO THE QUESTION ON THE PRE- AND POST-TEST.

PRE- REFERS TO THE PERCENTAGE OF CORRECT ANSWERS ON THE PRE-TEST. **POST**- REFERS TO THE PERCENTAGE CORRECT ON THE POST-TEST.

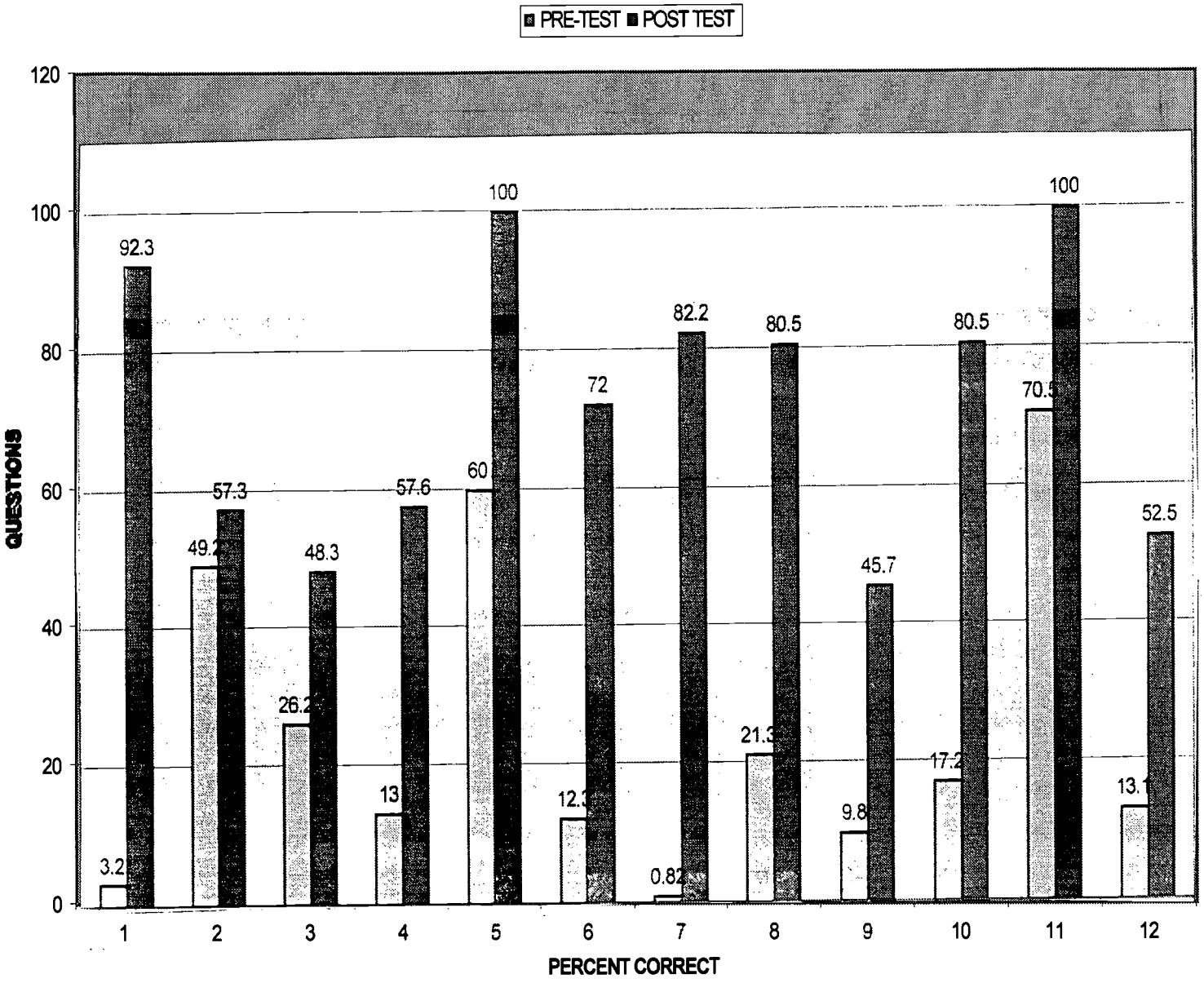

Figure 2. Pre- and Post-Test Results

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Teacher Preparedness for Inclusion

An Examination of Special Education Preparedness for Regular Education Teachers in Inclusive Classrooms

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Introduction

One of the most difficult aspects of teaching today is facing the challenge to meet the individual emotional, behavioral, and academic needs of each and every student. Since the 1997 amendments to the Individuals with Disabilities Education Act, the push to educate all children in the general education curriculum has become stronger (Beckman, 2001). Helping students with greatly varying abilities within a single classroom to succeed has therefore become a prevalent topic for research and discussion. "Differentiated Instruction," "Special Needs," "Mainstreaming," "Integration," and "Inclusion" have all become hot topics throughout education circles in recent years, and each practice presents its own challenges for schools and teachers everywhere.

Inclusion is just one practice that has inspired a change in the way America teaches her children. Everington, Hamill, and Lubic provide their readers with a working definition of Inclusion (1996):

> Inclusion...refers to... 'the commitment to educate each child, to the maximum extent appropriate, in the school and classroom he or she would otherwise attend. It involves bringing the support services to the child (rather than moving the child to the services) and requires only that the child will benefit from being in the class (rather than having to keep up with the other students).' (p. 52)

It is a complete change from past educational practices because it brings together the two formerly separate worlds of special education and regular education into single classrooms. These single classrooms are usually managed by regular education teachers, who, in some cases, are not ready for such a change. Even if they think they are ready for inclusion, some soon realize they don't have the educational background, support staff, equipment or teaching strategies to successfully "include" a student with higher or lower abilities than his or her peers.

Some of America's teacher preparation schools are trying to remedy this understandable resistance to change by providing more special education content in the regular education program. Some have even begun to require teachers-in-training to

experience an inclusive field placement. Such programs are not only providing their students with a wider knowledge base on teaching students with varying abilities, but they are also broadening their students' ideas and opinions about special education and the benefits of inclusion. As these requirements and practices become more prevalent, inclusion will be more appropriately and effectively implemented throughout the nation's schools.

The University of Tennessee at Chattanooga (UTC) houses one teacher preparation school where its students are required to take one special education course. An inclusive field placement is not required as of yet; however, this fall, for the first time, UTC placed a regular education student teacher in a placement where half of the school's population has been identified as having disabilities and the other half are typically developing students. It was a trial basis, and based on the outcome of that student's placement, more regular education teachers are to be placed there (L. Smith, personal communication, October 23, 2002).

It is UTC's experience this fall that has inspired the work of this project. The research, data collection, and conclusions herein will comment on teacher training programs across the nation and the way in which they prepare their students to teach in inclusive settings. First, a review of the literature provides a picture of inclusion itself and what researchers say needs to be done to effectively implement it in the field. Some literature indeed stresses the fact that teacher preparation and education are the keys to appropriate implementation of inclusion.

Second, a review of data collected in the Chattanooga, Tennessee area will provide a picture of current teachers' experiences with and attitudes of inclusion in two public schools where it is currently being implemented. Data comes from a survey for regular education teachers. Correlations and observations follow based on the data analysis.

Finally, some commentary concludes the report as the literature and data collection are brought together to examine the issue at hand, and to answer a few questions: Are teacher preparation schools doing all they can to prepare teachers for teaching in inclusive settings? What else needs to be done? What models can teacher training facilities use to implement inclusive teacher education? How are the attitudes

toward inclusion of current teachers affected by their training? What implications do this study and the review of current literature have on universities like UTC?

Review of Literature

In researching teacher preparation for inclusion, three types of literature dominate the field. The first type of literature is that which defines, explains the origins of, or examines the advantages and disadvantages of inclusion, itself. The second type includes literature that provides practical information for already practicing teachers and administrators presently in schools. The third type focuses on the implications of inclusion for teacher preparation academies and universities. Regardless of the type of literature out there, the ever-changing field of education is actively trying to keep up with "classrooms that are more diverse than ever before" (Lefever-Davis, 2002, p.).

Classrooms are more diverse than ever due to social, cultural, racial, socio-economic or cognitive differences among the student population. These differences, and the fact that students have been "included" despite differences, have caused the growing need for inclusive practices, such as integration or differentiated instruction. Some literature suggests that such practices have become necessities due to requirements set forth by the Individuals with Disabilities Education Act Amendments of 1997 (IDEA '97). IDEA '97 mandates that "all students are to achieve in the general education curriculum" (Beckman, 2001, p.). Another mandate is Section 504, a civil rights law that has caused educators to include students of all differences, abilities and backgrounds in the regular education classroom (Hooper, 2002).

Other sources contend that federal mandates and requirements are not the only driving force behind the nationwide move toward inclusion. McDevitt and Ormrod (2002), for instance, urge their readers to "think about [their] professional responsibility for children who come from backgrounds different from [their] own." They go on to offer a "poignant moral imperative to us all: We cannot continue as a nation to make a distinction between our children and other people's kids. Every youngster ... every child living everywhere – should have an equal shot. We need every one of them to be productive and educated and healthy" (McDevitt & Ormrod, 2002, p.). Inclusion, therefore, is also seen as a moral responsibility that educators must bear in order to meet the varying needs of every child in every classroom.

Much of the general literature on inclusion offers statistical information on the advantages of its use. Opponents say that it is detrimental to those students without disabilities or disadvantages, while many say just the opposite. Hines (2001) cites four separate studies that have found inclusion to be beneficial for both special and general education students. Inclusion can in fact "improve the ability of students and teachers to adapt more easily;" it can "offer a wide circle of support" to those *with* disabilities from classmates *without* disabilities; it can lead to "greater acceptance" of students with disabilities; and it "offers the advantage of having an extra teacher or aide to help" students with *and* those without special needs (Hines, 2001, p.).

The key to understanding successful inclusion, according to some, is that it is not merely "mainstreaming." The concept that students with differences or disabilities attend classes with their general education peers is not enough. "Inclusion differs from mainstreaming in that students are members of only the general education class and do not belong to any other specialized environment based on their disability" (Hines, 2001, p.). This specific aspect of inclusion presents certain implications to many in the field of education.

First of all, what are the implications for teachers and administrators presently in the public schools? Much literature exists that can help educators differentiate instruction to meet students' individual needs. For instance, Carol Ann Tomlinson (2002) presents two very different methods of differentiated instruction, one for first grade and one for fourth grade, and then shows how each lesson was planned out. She stresses that teachers need to "begin where students are, not at the front of a curriculum guide" and she literally tells teachers how to do this, by giving explicit examples (Tomlinson, 2002, p.).

In an intriguing article, Paula Qualls-Mitchell (2002) provides educators with experiential findings and describes how to successfully include students with hearing deficits. She explicitly lays out strategies for enhancing the reading abilities and overall learning for deaf and hard-of-hearing students in any classroom. Reading aloud, using American Sign Language, building on students' prior knowledge, and accessing multicultural literature are all ways to enhance learning for this culture of students, according to Qualls-Mitchell.

Still other literature provides lists of ideas or strategies for successful inclusion. Teachers are urged to make accommodations and modifications for individuals, use multiple instructional delivery systems, use grouping variations such as cooperative groups, and to teach students to use metacognitive strategies in their heterogeneous classrooms (Beckman, 2001). Dr. Diane Connell (2002) suggests using brain research to meet the needs of individual students. She has teachers take a "Cognitive-Style Quiz" and then explicitly describes how to blend the teacher's cognitive style with the students' styles. For instance, left brain teachers tend to reach left-brained students, but Connell suggests that these teachers remember strategies to reach middle- and right-brained students as well. She goes on to list such strategies throughout her piece.

Lists, articles, and suggestions like these prove helpful and most valuable to educators grappling with inclusion and differentiating instruction to meet all needs. Indeed, there is a good deal of practical information out there as more and more educators are sharing their inclusion experiences with peers.

However, there is another sect of people in the field of education who need guidance such as this in learning to include. They are the teachers-in-training and the university professors who need to have all of the answers at their fingertips in guiding these brand new teachers to their ideal classrooms where all students' needs are met at all times. The literature focusing on the implications of inclusion for university readers is more sparse than the other two types of literature discussed herein, but as universities become more involved in current practices and as they evolve to meet the changing school systems of today, more case studies, stories and research articles become published for professors and student teachers to use.

One such article describes the change Miami University has experienced in trying to keep up with needs for Inclusion and new ways of teacher training. Everington, Hamill, and Lubic (1996, p.) attempt to describe their process of change at Miami as they work to "better prepare incoming teachers to work in these new conditions." They compare their School of Education to any school or district trying to implement change. They note that any effective inclusion program, at the school, district, or university level must have the following: articulation of a mission, administrative support, staff development, collaborative planning/implementation, and ample common meeting times.

In establishing a need for such elements of change to take place, they cite an analysis of feedback in a study in which graduates of the School of Education participated. The "feedback indicated that the most common theme expressed was the lack of training in special education received by the general education students and the lack of training in collaboration for all education students" (Everington et al., 1996, p.). Then, they express how they are going to remedy this lack of training. They go on to describe the initial stages of change through which they have gone and they conclude by listing barriers still to be broken. The authors hope that "faculty commitment and involvement will continue to increase." Everington and company have provided their readers, the university base, a foundation of 'things to do.' As this article was written in 1996, other universities have now had time to take these ideas and implement change in their own schools of education. With support and articles such as this one, universities one by one can begin to meet the growing needs of new teachers everywhere.

A similar article by Goodwin, Boone, and Wittmer (1994) specifically describes the evolution of a graduate-level early childhood teacher education program at the University of Colorado. They cite three reasons why their program needed change: the passage of PL 94-142 and its call for inclusion, the more diverse population of early childhood programs, and the varying needs of these diverse populations. At the end of their article the reader understands the necessity to train early childhood educators alongside early childhood special educators as these teachers need to be proficient in a "holistic service...approach [that] requires training across disciplines such as early childhood special education, early childhood education... psychology, nursing, and related therapies" (Goodwin et al., 1994, p.).

An article like this one can be a strong beginning for any school of education to use when initiating change within its structure and curriculum. They explain how studies have been conducted, which specific classes have proved more beneficial, how field experiences have been changed, and then how students' opinions after completing the program have been taken into consideration. The University of Colorado, like Miami University, is on the way to better preparation for teachers moving into an inclusive field. As more universities follow suit, more literature will be available, and more importantly,

more teachers, university professors and school administrators will be better prepared to meet our nation's educational needs.

The particular information that follows describes a brief study completed at the University of Tennessee at Chattanooga and its surrounding community. Perhaps it, too, can be considered a step in the right direction as universities move toward teaching inclusive practices in their schools of education.

Data Collection and Results

PURPOSE

The purpose of this case study/data collection is to gather information regarding the extent to which regular education elementary teachers have been prepared for using the inclusion model in their classrooms. The hope has been to find out current teachers' attitudes and comfort levels about inclusion in relation to their formal instruction or training in inclusive practices. In other words, are teachers more eager to effectively use inclusion if they have been trained or have had experience in it? Also, information here will show that regardless of training or experience with inclusion, teachers are teaching in inclusive classrooms, prepared or not.

PROCEDURE

Location

Copies of a single questionnaire were distributed among two different public elementary schools in downtown Chattanooga. For purposes of anonymity, they will be known as School A and School B. These two schools were chosen because of their proximity to UTC and because of the researcher's relationship as a graduate student in one and as a former employee in the other. Both schools have a relatively strong university presence, meaning UTC students complete field placements on location, and professors keep the schools in their schedules, as well. Both schools are magnet schools, where diversity and meeting individual needs in a student-centered environment is of much importance. For the purposes of this study, it is most important to note that both schools use inclusion as their special education model. At School A, there is a preschool self-contained class; but for grades K-5, inclusion is the method of delivery of special education. The same holds true for grades K-5 at School B, as well.

The Survey Instrument

The actual instrument consists of two sections of response items. The first section asks for general information. No name or personal information is requested, just information such as degree earned, certification, year of graduation, grade level that is

currently being taught, how many years of actual teaching experience the respondent has, and the university where the teacher got his or her degree.

The second section asks questions about the teacher's experiences with inclusion in his or her regular classroom, since graduation. Also, a question is included about the respondent's comfort level with inclusion and using it in the classroom. Specific questions ask about the teacher's actual training or course work in special education or inclusion.

After each question, plenty of room is given on the page for comments or details, as respondents can explain answers carefully. Thus, all questions except one are of the short-answer fashion. The excluded one is a multiple choice question about how the teacher has met the needs of a student with a disability in the regular classroom. Choices are given, but there is room to write in an answer in "Choice D: Other." Five out of the 16 educators surveyed chose to write in an answer for Choice D.

Respondents were given a total of approximately 2 weeks to complete the questionnaire, from the date of delivery to the date listed on the form as the cut-off date for accepting completed surveys. Most of the respondents turned their completed surveys in promptly, within approximately a week.

To see the actual survey that was distributed at the two sites, please refer to Appendix A.

The Respondents

Out of the questionnaires distributed, 16were completed. All 16 were filled out by regular educators, although a few of them have some kind of special education experience. Of the 16, 13 are UTC graduates. For some of them, the UTC degree is a Master's in Education. For some it is a Bachelor's; and for others, both or several degrees have been earned at UTC. All of the respondents are elementary educators, teaching in grades kindergarten through 5^{th}.

RESULTS

With regard to inclusive training these teachers received before entering the classroom, 6 of the 16 answered that they had no special education classes or field experiences with students with disabilities or exceptionalities. Ten of them responded

that they remember having had one class, an introduction to disabilities class or that they also remember having "little" or "some" field experience with inclusion during their preparation.

One of the questions regarding teacher preparation and field experiences is worded as follows: "Did you teach them? Were you in situations where you had to make decisions regarding these students' instruction [during student teaching or other field experiences]?" A "yes" answer to this question would imply that the teacher had pre-service experience with an inclusive practice: making instructional decisions for a student with exceptionalities in a regular education classroom. Out of the 16 surveyed, only 3 answered yes to this question. Of those three, one was a UTC graduate.

With regard to professional, post-graduation experience with inclusion, 12 of those surveyed answered that they have indeed taught students with disabilities since graduating from a teacher preparation school. Their students' exceptionalities have ranged from giftedness to physical disabilities, to learning disabilities, all ranging from mild to severe. Note that the number of people with pre-service training or experience was lower than 12; only 8 teachers surveyed had some inclusive training before entering their inclusive classrooms, and those 8 used the words "little" and "some" in discussing their pre-service training. Those respondents who answered no, that they have not had any students with exceptionalities in their regular classrooms are teachers who have been teaching for less than 5 years. The average number of years of experience for those teachers who have had students with exceptionalities in their classrooms is 16.5 years. The extent of experience with inclusion is higher for those teachers with more years of experience.

One of the final questions on the survey asks teachers to rate themselves as having a "comfort level" regarding inclusion. If the teacher is completely comfortable and at ease with having students in his or her regular education classroom, he or she rated him or herself as a "10." If he or she is completely *un*comfortable with including exceptional students in his or her regular education classroom, then he or she rated him or herself a "1." The responses range from a 3 to a 10. Most of those surveyed gave an explanation as to why they rated themselves as they did. The ones who did not rate themselves highly (seven or above) did so with the reasoning that they are afraid they are not meeting every

student's needs when there are some with greater and more exceptional needs than others. Other respondents chose to explain that their rating is dependent upon the nature of the students' disabilities, or upon the amount of help they get from a resource teacher or instructional assistant.

The average rating from all of the surveys collected is a 6.67 comfort level. When 5.5 is the median between 1 and 10, most of the teachers surveyed feel fairly comfortable with teaching in an inclusive classroom. The 13 UTC graduates average out at an approximate 6.95 comfort level (See Figure 1).

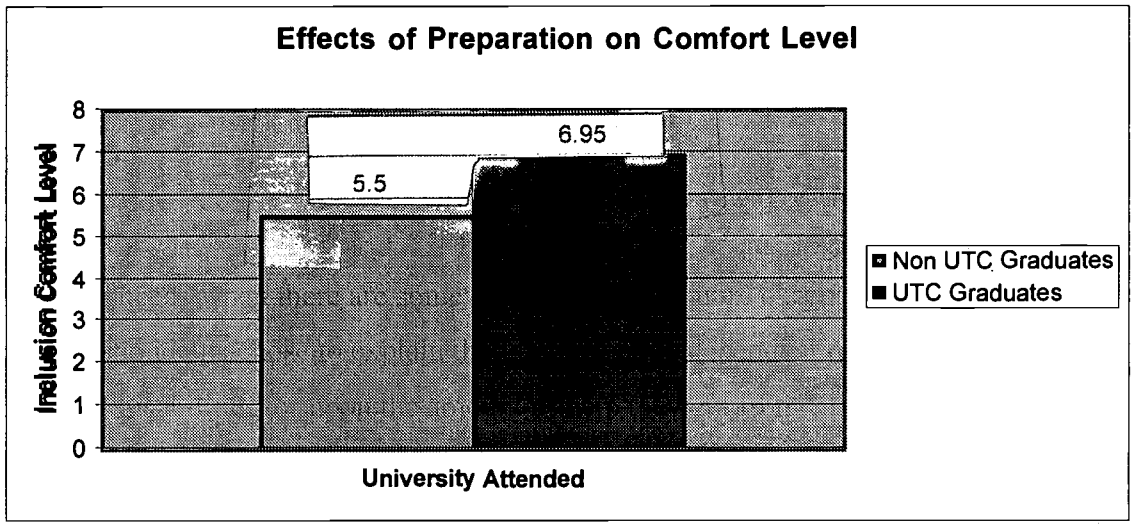

Figure 1. Graduates of UTC's teacher education program have a comfort level higher than those of other schools.

They (UTC graduates) are a group higher than the average comfort level, as is the group that answered that they had an inclusion class or some inclusive field experience during their teacher training. Those with training have an average comfort level of 6.9, whereas those without training or pre-service experience with inclusion have an average comfort level of 6.2. Of the three respondents who said they had participated in pre-service inclusive field experiences, the average comfort level was 6.7. Figure 2 correlates teachers' comfort levels about inclusion and the presence of actual pre-service training.

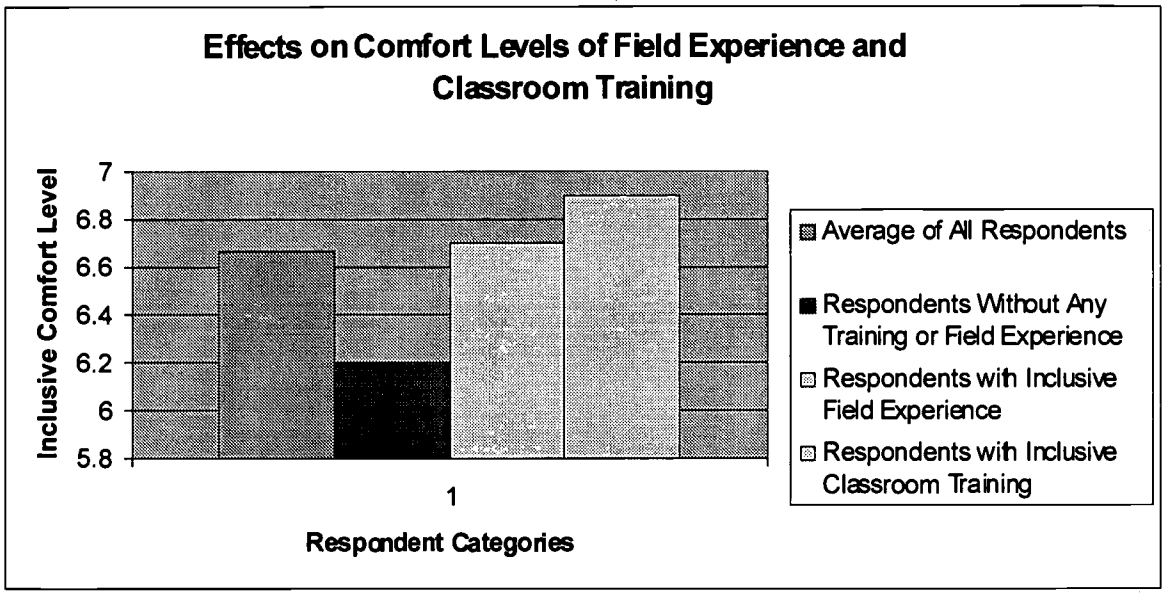

Figure 2. Respondents with field inclusive experience and classroom training have a higher Inclusion comfort level than those without inclusive field experience and classroom training.

The final question on the survey asks teachers to recall if they have had any professional development or inservices on inclusion or serving students with disabilities. The common answer was that they have had inservices, but the inservicies are focused on laws and the most recent litigative concerns the school system has regarding serving students with exceptionalities; practical classroom-ready ideas are not discussed.

One respondent out of 16 said that he or she has gained practical ideas for meeting exceptional students' needs in the regular education classroom from an inservice. A second respondent said that he or she has gotten most of his or her ideas from professional reading done on his or her own time. A third response to note is the one who suggested he or she could offer some of his or her own wisdom at some of these inservices that have been held, and that his or her own experience has been the best teacher.

Conclusions and Recommendations

The data previously included shows that regardless of the teacher's extent of preparation or training for inclusion, he or she is teaching in the inclusive classroom. When there are 12 out of 16 respondents who have taught or are teaching using the inclusion model, and only 8 of 16 were trained to do so, the questionnaire results show that more inclusive preparation is indeed necessary. Moreover, when comfort levels are examined, the data shows that those teachers who have attended an institution such as UTC or have had at least some inclusion introduction or training, have a higher comfort level with inclusion and therefore feel better adept at meeting students' individual needs. Granted, the comfort levels have plenty of room to increase, as the scale on the questionnaire goes to 10, and most of the respondents' ratings hover around 5 or 6.

In the meantime, universities and school districts need to look to those already in the process of changing, like Miami University and the University of Colorado, to meet the inclusive needs of schools today. According to this small study, even a single class on disabilities and an introduction to inclusion can aid in furthering teachers' abilities and comfort levels in providing services for students with exceptionalities. Providing students with actual field experiences where they must make instructional decisions for children with exceptionalities will also help to improve these comfort levels. A program, like that at the University of Colorado for instance, where early childhood majors are required to learn about family and child development and disabilities along with early childhood methods can prove to help bridge the gap between regular and special education in elementary classrooms. A program that would require student teachers to spend time teaching in settings where much of the classroom population is identified as having exceptionalities would be a step in the right direction toward making a more inclusive-minded field of teachers.

The hope is that UTC will continue to place teachers in settings like this as well, just as they have this fall. Perhaps they will go on to meld their regular education program with their special education program and continue to put forth teachers whose comfort levels with inclusion are increased. As one of this study's respondents said, experience is indeed the best teacher. UTC and other universities and teacher preparation

schools across the country should take this thought into consideration when preparing teachers for any classroom, not to mention an inclusive one.

The obvious concern when implementing or even suggesting change in an educational setting is money. Is there money available for providing more special education or inclusion classes for a larger body of student teachers? More than likely, professors would end up teaching more classes than they do now, or classes would be larger. Neither situation is desirable for the professors or the students of any teacher preparation academy. However, there are usually some grant moneys available, and perhaps there is some money that would come from federal funds, as some special education projects can fall under IDEA requirements.

More research will need to be done first, in order to implement substantial change, and this is research that could be done by graduate students as this brief study has been done at UTC. As graduate students do not get paid for completing research pertaining to required projects, they may be a potential source of furthering research on teacher preparation and inclusion, and even other topics related to inclusive practices. The benefits for the university are thus financial as well as research-related.

Regardless of the source of funds, or the process by which universities like UTC go about changing curriculum, course and field experience requirements, changes in teacher preparation need to be taking place. Therefore, new teachers will be more and more prepared to teach *all* students included in their regular education classrooms.

As all classrooms indeed become inclusive, teacher preparedness will remain the key in effectively instructing our nation's children and meeting their individual needs.

Appendix A

Teacher Questionnaire

Dear Educators,

The following request for information has been developed in conjunction with my graduate research I am completing for UTC. I am researching the extent to which "regular education" teachers are prepared for integrating students with disabilities into their classrooms of mostly typically developing children.

Please fill out the following questions and return to __ in the kindergarten by Monday, October 28th. You do not need to add your name anywhere on this form; it is anonymous. *Thank you in advance for your thoughts and time.*

Amy L. Marshall
Student Teacher, M.Ed. Candidate, UTC

Your certification: _____

University where you received certification/degree: _____

_____

Date of graduation: _____

Number of years of actual teaching: _____

Age/Grade level you currently teach: _____

1. During your teacher preparation program in college, were you required under the regular education certification to take any courses of Special Education? If so, list their titles or topics.

2a. During your teacher preparation, were there required field experiences in which you observed/ encountered students with disabilities or special needs?

2b. If so, did you teach them? Were you in situations where you had to make decisions regarding these students' instruction?

3a. After your teacher preparation, since you have taught full time, have you had students with disabilities in your regular education classroom? If so, what grade level(s) or disability(ies)? Were the disabilities mild to moderate or moderate to severe?

3b. If you answered **yes** to number 3a, how were you able to meet the special needs of the student(s)?

a. help from assistant(s)
b. help/direction from a certified resource or special education teacher
c. couldn't meet their needs and needs of peers at the same time
d. other _____

4. Rate your comfort level regarding Inclusion or Integration on a scale from 1 to 10, where *1 is completely* ***uncomfortable*** with students with disabilities in your class and *10 is completely comfortable.* If possible, briefly describe why you rated your comfort level the way you did.

5. Have you had any professional development/in-services on Inclusion or services for students with disabilities at your current school or at schools where you may have taught in the past? If so, how many (estimate as closely to accurate as possible) in-services? Have you implemented any ideas from these in-services on your own?

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Effects of Being Labeled Gifted in Elementary Students

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University of Tennessee at Chattanooga, Fall 2002

Introduction

A hot topic in the teaching profession today is ability grouping. The social impact of ability grouping has led to several topics in educational research. Many elementary teachers use ability grouping as part of their normal routine, especially in reading and mathematics. One specific group affected by ability grouping is gifted students. From the early stages of adjustment through the steps of Maslow's hierarchy to self-acceptance, ability grouping can have a significant social impact on gifted students.

Literature Review

The task of identity development begins in early childhood. For many gifted people, identity formulation is complicated by factors related to, or arising from, their differences from the majority of people with whom they must interact at school and in adult life (Gross, 1998). Gross's study focused on the tendency for gifted students to hide their true self to be more accepted socially. Self-acceptance is an essential stage of identity formation and in the development of sound interpersonal relationships. If the students are not comfortable with their true self, they are not self-accepting.

While Norman, Ramsay, Roberts, and Martray (2000) found reinforcement of previous studies that found gifted students as a whole to be no more or less adjusted than other students, it is factors unrelated to giftedness that often contribute to adjustment. However, they did find a significant relationship between social status and self-concept. Cornell (1990) found that unpopular students tend to have poorer social self-concepts than popular students, but did not find lower academic self-concepts. Norman et al. concluded that one's level of giftedness does not play a major role on social status, at

least among other gifted students. However, other factors do seem related to one's position among peers, especially when it comes to being popular or rejected. These components of emotional well being become more obvious in the adolescent years. In short, it appears that self-concept is related to social standing, which in turn is related to self-concept.

The social aspects of being labeled gifted can also have a substantial effect on social development. Being labeled as gifted has positive and negative effects. Moulton, Moulton, Housewright, and Bailey (1998) found that adolescents' perception of being labeled gifted affected them positively, but they were affected psychologically, emotionally and socially in a negative manner. Moulton et al. stated, "When the gifted child is not free to express his giftedness, he or she learns to deny that in himself in order to avoid the loss of love" (p. 153). Gifted students need information about giftedness; it must become an integrated piece of the self, and should not be ignored or denied. It is important that the caregivers support the gifted child by helping them affirm their identity and understanding of their gift. The most important factor in developing a healthy self is the response of others to the individual. Self-psychology principles improve our understanding of the healthy development of gifted children. Neihart (1998) says that these principles shed light on how expressions of giftedness influence personality development and explain why it is the response to the gifted child that is pivotal in development. She also states that between the ages of 5 or 6 until puberty, significant developments in the self occur as the result of failures and success in learning. Self-esteem is shaped through experiences with peers and success or failure in learning.

Schraw and Graham (1997) found that gifted students integrated into regular classrooms has advantages for all students involved due to levels of metacognitive development. Metacognition allows gifted students to translate their knowledge and ability into higher level learning through better self-regulation. In turn, gifted students may be well suited to serve as models for less skilled students who have not yet developed explicit metacognitive control of their learning (Schraw & Graham, 1997). Clark, Colangelo, Dewey, Geiger, and Goleman's studies (as cited in Folsom, 1998) found that observing gifted students in a regular classroom helped them delineate the gifted student's desire to pursue not only academic interests, but moral implications as well. Intellectual learning is often seen as separate from learning in the moral dimension, including character development, ethical reasoning, and emotional awareness. Yet, both kinds of learning are needed simultaneously for positive achievement of life goals, emotional stability, and a healthy development of self. Although historically giftedness has been defined in the intellectual terms of achievement and importance, Folsom states that pedagogical planning should include consideration for learning that involves the inner self. Melser (1999) also found that the best place for gifted students to be is in an integrated regular classroom and they are successful through cooperative learning. She studied groups of heterogeneous and homogeneous gifted students in relation to cooperative learning and self-esteem. Melser concluded that while the academic achievement of all students increased, the gifted students in the homogeneous group had decreased levels of self-esteem after the cooperative work with other gifted students. There was an increase in self–esteem after the heterogeneous group activity. One important conclusion Melser attained is that the

self-esteem of gifted students may be affected when using cooperative learning. Teachers may want to use flexible grouping or change groups often when integrating cooperative learning in the classroom. Gifted students are not usually accustomed to being with a group in which all students have similar metacognitive abilities; therefore, they are not sure how to react socially. Melser concluded that by working with others, sharing ideas, and teaching concepts to fellow students, gifted students could thrive through the use of cooperative learning in the regular classroom.

Research Questions

The literature leads to several unanswered questions. While some do not have a definite answer, these questions lead to further research. Following are the questions proposed for this study.

- Are gifted students in the regular classroom held back or not performing to their ability? On the other hand, are they gaining a more rounded, whole-student education by being involved with others who may not learn as quickly?
- How do gifted elementary students feel about being labeled gifted?
- Are they embarrassed or proud to be labeled gifted?
- Does the label cause social dissonance in the classroom or in other activities?

Methods

Participants

The participants will include the children classified as gifted at local suburban elementary school. These children labeled gifted, the gifted program teacher, the regular classroom teachers, and any other students in participating groups will be part of the study. Gifted students and their regular classroom teachers will only complete interviews and questionnaires.

Instruments

Interviews will be conducted with all gifted students observed. The interviews will be centered on the students' perception of socialization: their personal sense of belonging to the group, self-esteem, and self-acceptance. The researcher wants to know how the students feel about being labeled *gifted.* In addition, their opinion of how being labeled gifted affects them socially will be assessed (see Appendix D for interview protocol).

The teachers involved will complete questionnaires. The question basis will be on their observations of the social interactions of the gifted students and their acceptance by their peers (see Appendix E for interview protocol). The researcher is looking for correlations between teacher beliefs and student perception.

Additional interview questions may be prompted during interviews to ask why a student gave the answer given.

Procedures

First, the researcher will seek approval from school administrators and the University of Tennessee at Chattanooga professor. Once approved, a brief outline of the

project, a "Question and Answer" (see Appendix C) and sample parent permission form (see Appendix B) will be submitted to assistant principal. Following, informed consent forms will be sent home to parents/guardians of the gifted students.

The first interaction in the school will be an introductory meeting with the principal. The researcher will briefly discuss the purpose and procedures to gain entry into the classroom settings (See Appendix A for outline submitted). Once administration has agreed to the study, a brief letter to the teachers involved will be distributed. The purpose of the overview for the teachers is to gain their trust and acceptance of the study.

Once permission is granted form the parents, individual interviews will be conducted with the gifted students. The interview questions will be geared towards the gifted student's perception and feelings on social impact of ability grouping. Some explanation of ability grouping may be necessary, especially for the younger participants. Generally, the researcher wants to know if they prefer working with students who are more alike or different from them.

The participating teachers will be asked to complete questionnaires. The basis of the questionnaires will be the teachers' perceptions of where gifted students best fit in the regular classroom. The researcher is interested in their perceptions before and after this study takes place.

Time Schedule

August 26th	Submit outline to assistant principal and Dr. McAllister.
August 30th	Distribute letters to the teachers involved in the study for introduction of the study and acceptance.
August 30th	Collect parent consent forms.
September 4th	Distribute teacher questionnaires.
September 9th – 13th	Conduct an interview with each student.
September 27th	Collect teacher questionnaires.
September 23rd – October 4th	Data analysis.
October 7th	Complete paper.
October 8th	Submit copy of research to school administration.

Data Analysis

Data was collected and analyzed based upon student reactions to questions as well as the questions themselves. The researcher's goal was to determine how elementary students feel about being labeled gifted and what effect that has on social interactions. At this school, there are only six students classified as gifted. There are five others in the testing process. Five of the six classified students' parents gave permission for their children to participate in the study.

When initially approached, the students were somewhat apprehensive to discuss the gifted program. The majority of the students were middle of the road on their responses. Figure 1 illustrates individual responses to the interview questions found in Appendix D.

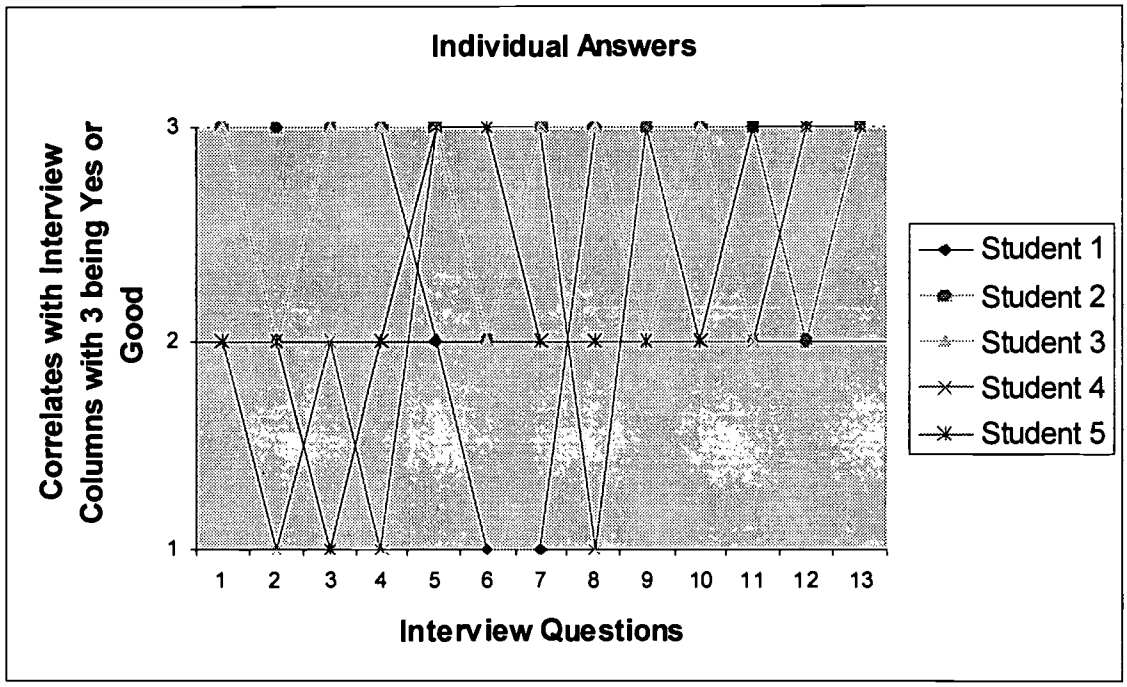

Figure 1. Individual responses to student interview. Questions 1-5 refer to feelings about the gifted program and working in groups. Questions 6-13 refer to self-concept. Questions 2 and 15 were omitted from this graph due to their subjective nature.

Overall, I received a negative feeling from the interviews with the students about their experiences in the gifted program. While none of the students said that they did not like to learn, only one of the students said that they enjoy the gifted program. It is important to note that three students said sometimes they enjoy it and only one said they did not. The timing of the pullout program is key as well; some of the students can only partake in gifted classes during their regular lunchtime or recess. Group statistics are exemplified in figure 2.

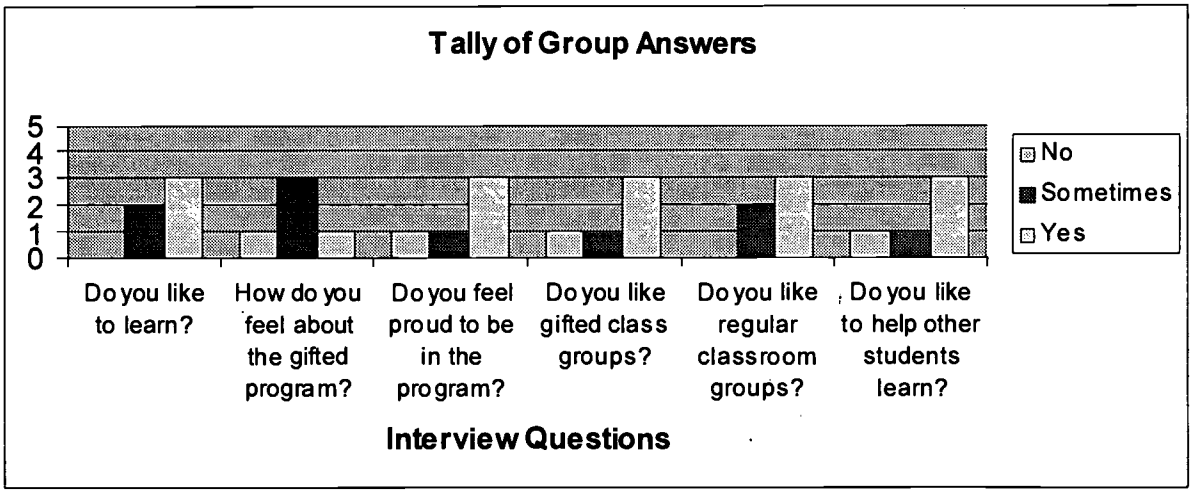

Figure 2. Group responses to interview questions 1, 3, 4, 6, 8, and 9. The numbers on the left represent the number of students with the corresponding response.

Another proponent of the interviews was the correlation between student responses to the questions about the program and grouping with the responses to questions concerning self-concept. Although several students stated that they did not like or enjoy the gifted program, none of the students had poor self-concept or low self-

esteem. The data indicates that the students like to work in both homogeneous and heterogeneous groups. Another indication is that being labeled gifted does not affect the students' social interactions in the regular classroom based on the results to questions 10-14 of the interview. Figure 3 demonstrates the group responses concerning self-concept. In looking at the graph, it is clear that none of the students have a negative self-concept. The students appear to enjoy social interactions. It is interesting to note that the questions "How do feel about yourself at school?" and "How do you feel about yourself when working with others?" have opposite responses. Students appear more confident overall in school than when interacting with others. However, it is important to note that none of the students responded with bad on any of the self-concept questions.

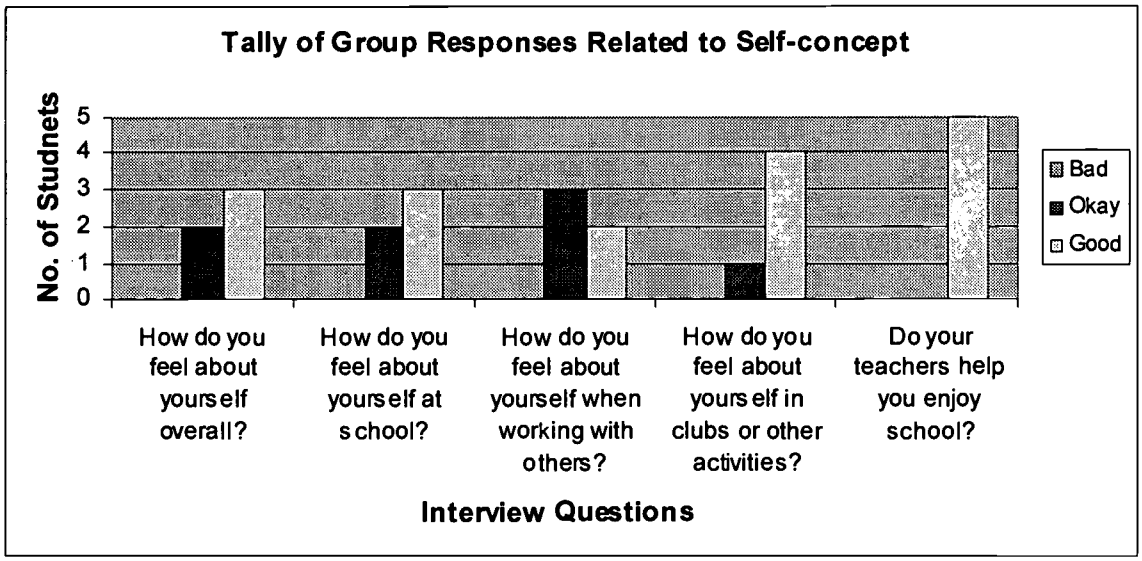

Figure 3. Group responses to self-concept questions, 10-14.

The teacher questionnaire responses were informative. In order to maintain anonymity, teachers' and students' names are not listed. Of the teachers who responded, the majority comments that they have little opportunity to observe gifted students in

homogeneous groups. The same majority said that their gifted students work well in heterogeneous groups. Most believe that the experience in both homogeneous and heterogeneous groups is best for a well-rounded education.

Question three of the questionnaire asked "Do you think it is holding them back to place them in heterogeneous groups?" The response on this question was split. Fifty percent believe that it is holding them back because they could be moving through material quicker and gaining more knowledge, while the other 50% think it is good practice to be part of different types of groups. Those who support both group setting for their gifted students, state that this is the most common real life grouping. One teacher states, "...no matter where you are in life, there is most likely someone a little smarter than them and someone who may not be quite as smart as them" (response, Teacher Questionnaire, 2002). Another response to this question was that the variations in group settings offer opportunities to teach others. By teaching others, the gifted student may experience deeper learning.

Overall, the teachers feel that heterogeneous grouping enhances the whole-child experience. One teacher notes, "It really depends on the child and his teacher" (response, Teacher Questionnaire, 2002). One teacher feels that heterogeneous groups help the inclusion students, but not the gifted students.

In conclusion, the gifted students represented in this study do not appear to be affected negatively by being labeled gifted. The students appear to enjoy school and enjoy both homogeneous and heterogeneous groups. Two questions that have surfaced for further research follow. Does grade level and maturity level have an effect on the

social impact of being labeled gifted? Does labeling modify self-concept and self-esteem in the formative early years?

The students in this study are too young and have not been in the gifted program very long. It would be a great longitudinal study to re-interview these students in 3 to 5 years with similar questions.

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Appendix A **Research Overview**

Title: Affects of Being Labeled Gifted in Elementary Students

Research Questions: The overall goal of the study is to see how elementary students feel about being labeled gifted. More specific research questions follow:

- Are gifted students in the regular classroom held back or not performing to their ability? Or are they gaining a more rounded, whole education by being involved with others who may not learn as quickly?
- How do gifted elementary students feel about being labeled gifted? Are they embarrassed or proud to be labeled gifted?
- Does the label cause social dissonance in the classroom?
- Does labeling modify self-concept and self-esteem in the formative, early years?

Participants: All children labeled gifted at this school, the gifted program teacher, the regular classroom teachers, and any other student in the classes.

After project approval from the assistant principal and the UTC professor, information and permission letters will be sent to the parents of all gifted students.

Instruments: The researcher will observe the student in their regular classroom setting during a group activity conducted by the teacher. After observing the regular classes, the gifted students will be observed in a homogeneous group with the special education teacher. Field notes will be taken to implement additional interview and questionnaire questions. After completion of observations, the researcher will conduct interviews with the gifted students (interview protocol will be available as an appendix). All participating teachers will be given a questionnaire regarding what they believe about grouping (questionnaire protocol will be available as an appendix). All data reported will remain anonymous.

Appendix B **Parental Consent Form**

To the parents of _____:

Hello! I am a graduate student at UTC completing my Master of Education along with my initial teaching certification in PreK – 4th grade. I have been given the wonderful opportunity of doing part of my student teaching placement at your child's school. Although my placement is in kindergarten, I will be conducting a research project involving all students currently eligible as gifted.

I am writing you to gain approval to observe and interview your child during regular school hours, on school grounds. I will observe the students in their regular classrooms as well as the time they are pulled out of the classroom to interact with the gifted education teacher.

A copy of the project outline submitted to the assistant principal and my UTC Professor is enclosed with this letter.

Please sign and return this letter to your child's homeroom teacher by **Friday, August 30, 2002.** If you have any questions, feel free to contact me at home after 4:00 pm or via email. Thank you for your time and support.

Sincerely,

Johnna G. Milsaps

Student's Name: _____

Homeroom Teacher: _____

Please check the appropriate box.

☐ I give Johnna Milsaps permission to observe and interview my child based on the proposed research study during school hours on school grounds.

☐ I do not wish for my child to be observed or interviewed for this research study.

_____ _____

Parent / Guardian Signature Date

Appendix C **General Questions and Answers**

Q: *What are you trying to do with your research?*

A: The researcher wants to observe gifted students in their regular classroom setting to learn the social affect of ability grouping in gifted students. The researcher wants to know how the students feel about being labeled and where they think they fit in.

Q: Will you be disruptive?

A: No. It is important for qualitative research to be as unobtrusive as possible. The researcher wants to study the natural setting as much as possible. Once observations are complete, individual interviews will be conducted with the students, pending parental agreement.

Q: What are you going to do with your findings?

A: The main objective for completing this study is to meet graduate school requirements. A graduate professor will read and assess the term paper.

Q: What will the school gain from this?

A: A copy of the research will be available if desired. Generalizable findings from the study may be discussed. The students' feelings may be useful for their teachers in future instruction preparation.

Appendix D **Student Interview**

Name: _____

Teacher: _____ **Grade:** _____

1. Do you like to learn?	Not really	Sometimes	Yes!
2. What is your favorite time of the school day? _____ _____			
3. How do you feel about being in the gifted program?	Do not like it.	It is okay.	It is awesome!
4. Does being in the gifted program make you feel proud?	No	Sometimes	Yes
5. Do you work in groups in your regular classroom?	No	Sometimes	Yes
6. Do you like to work in groups?	No	Sometimes	Yes
7. Do you work in groups in your gifted class?	No	Sometimes	Yes
8. Do you like to work in groups there?	No	Sometimes	Yes
9. Do you like to help other students learn?	No	Sometimes	Yes
10. How do you feel about yourself overall?	Bad	Okay	Good
11. How do you feel about yourself at school?	Bad	Okay	Good
12. How do you feel about yourself when working with others?	Bad	Okay	Good
13. How do you feel about yourself in clubs or other activities?	Bad	Okay	Good
14. Do your teachers help you enjoy school?	No	Sometimes	Yes
15. How? _____ _____			

Appendix E **Teacher Questionnaire Protocol**

1. Do you notice differences in social interactions among gifted students when placed with heterogeneous versus homogeneous groups? Explain.

2. Where do you think is the best fit for gifted students in regards to grouping?

3. Do you think it is *holding them back* to place them in heterogeneous groups? Why or why not?

4. Do you think heterogeneous groups enhance the *whole child* learning experience?

A Comparison of Pre- and Post-Testing for both Academic and Physical Education Components in a High School Wellness Class

By: Michelle T. Taravella

EDUC 590
Fall 2002

A Comparison of Pre- and Post-Testing for both Academic and Physical Education Components in a High School Wellness Class By: Michelle T. Taravella

In the state of Tennessee, high school physical education teachers now teach wellness, opposed to typical physical education classes of the past. The wellness curriculum incorporates health and the promotion of life long activity, not sport-related content. Two of the areas covered are physical fitness and nutrition, which I will talk about in conjunction, since the two go hand-in-hand with regard to weight management. The teaching of physical fitness and nutrition has become difficult in our day and age, as many of the students I ask would rather lose weight the "quick and easy" way by trying the numerous dietary supplements and miracle weight loss programs advertised. Also, it is difficult to advocate for good nutrition when our schools are filled with vending machines filled with "junk foods" filled with sugar and saturated fats.

The term "you are what you eat" is a very true statement, especially in our modern society. Everywhere we look, there are vending machines full of candy, cokes, and fat-filled "goodies." In actuality, research shows that these "goodies" are not very good at all. Susan Black (2000) discusses the detrimental effects that junk food has on our children. Current studies have shown that sugar-filled foods not only lead to tooth decay, diabetes, and obesity, but also to a multitude of learning and behavioral problems in school. Many of these conditions first begin to develop in early childhood, as that is when children need large amounts of valuable nutrients in order to promote normal growth and development. Malnourished children tend to be more prone disease, which can result in absence form school. Absence from school is serious, as these children are at high risk for abnormal cognitive development to begin with, as malnourished children have to conserve energy to in order to maintain essential organ function. Many of the aforementioned diseases/conditions can be altered with a combination of physical activity and diet alteration.

The teaching of physical fitness and nutrition needs to be a coordinated approach. In Eva Marx's article on health and learning (1999), she discusses the need for this type of approach and steps that a school can take toward implementing such a plan. A coordinated school health program must be reinforced by creating a healthy environment. In doing so, it is necessary to provide comprehensive health classrooms, utilize physical education to promote lifelong fitness, provide adequate health care services for students, provide social services to create a positive learning environment, offer nutritious foods, rather than unhealthy foods, and involve the entire faculty and community. In order to create a coordinated health program, it is necessary for administrators and school board members to understand the importance and need of such a program. The coordinator must have access to school decision makers and must be able and

willing to correlate some schools programs' with community activities. The appointed school health team must meet regularly and attend school board meetings in order to keep them up to date with progress being made. An assessment must be performed in order to build upon the current system being used, providing one is currently in use. The school health team must create realistic goals and alter the goals accordingly. The program must be monitored and evaluated regularly and the program must be altered according to the findings. Subcommittees must address the needs of each component and need to communicate on a regular basis. Finally, the school or school district must publish and make the implemented policies available to the public. In essence, a coordinated school health program should aid the school in promoting overall health. Many school districts are already overburdened with academia, thus health and nutrition do not take precedence, despite the knowledge that malnourishment and disdained health can lead to a multitude of disabilities.

Physical fitness needs to be a life long process. Dr. Paul Donahue (2002) writes an editorial question and answer section for the Chattanooga Times Free Press. In a recent editorial, a gentleman asks him if running in the past will keep him in condition for life. Dr. Donohue responds by telling this gentleman "anyone who stops aerobic training for a year loses all its benefits. The physical condition of that person reverts to what the physical condition is of someone who has never exercised."

Nutrition and physical activity must be performed in combination. Cindy Sims (2001) discusses this in her article entitled Healthy Dieting – An Oxymoron. She states that many people now associate diet with weight loss, starvation, deprivation, and diet pills. The latest statistics show that 51% of Americans meet the criteria for being overweight. Adult onset diabetes and hypertension are now being seen in children as young as 4 years of age. Ms. Sims stresses the importance of lifestyle changes that must be made in order to safely lose weight and maintain health. These lifestyle changes must be made with a combination of a healthy diet and lifelong physical activity.

Regular exercise enhances our mental health as well, according to Tom Cory, Ph.D. (2001). Dr. Cory discusses the "mind-body" connection and explains the psychological effects exercise has on the human body. He states that during exercise, the body releases natural endorphins, similar to the medically created endorphins seen in many anti-anxiety drugs. Exercise not only improves cardiorespiratory and muscular fitness, but it also gives one more energy and stamina throughout the day. The endorphins released are the reason many people experience a "runner's high" after exercise.

Physical fitness and weight management are essential aspects for the promotion of overall health. In today's society, our youth are much less active than their counterparts 10 years ago and eat much more junk food, with little or no nutritional value. Thus, this study will serve as an evaluation of knowledge gained during a 4-week physical fitness unit and an evaluation of the changes made to overall physical fitness and health throughout the physical activity portion of the unit.

METHODS

Subjects

The subjects for this study consisted of 23 males and 27 females. The students ranged from 17-18 years of age. All participants were seniors at a local urban magnet high school. All students were enrolled in the Lifetime Wellness curriculum mandated by the State of Tennessee. The results include data from 19 males and 24 females, as some students failed to turn in assignments, thus their results were not utilized.

Instruments

Appendix 1 – Assessment Form

Appendix 2 – Assessment Worksheet

Appendix 3 – Written Test

Procedures

This study took place during my first student teaching placement. I set out to measure whether or not students' knowledge and levels of physical fitness increased after my instruction of a physical fitness unit. The unit consisted of physical fitness topics including fitness components, skill-related fitness components, fitness testing, cardiorespirtatory endurance, muscular endurance, muscular strength, body composition, and weight management.

I administered a written test composed of eight questions and worth a total of 15 points. This test was composed of multiple choice, matching, true/false, and short answer. Included in my testing was also a physical activity component where I assessed my students' physical fitness levels. During this testing, I administered a sit and reach test, to assess flexibility; a sit-up test and push-up test, to assess muscular endurance; and the Rockport Walk Test, to assess cardiorespiratory endurance. Instruments utilized are included with this report (Appendix 1-3).

The written pre-test was administered on the day I began instruction of my physical fitness unit. The students were asked to complete the quiz as a means for me to understand their current knowledge of the topic. All students complied and the testing went well. I administered the post-test on the last day I taught the unit. I did not alter the test in any way. I used the post-test in conjunction with a review lesson.

The physical activity component pre-test was administered the week I began teaching my unit. We utilized three "dress out" days and went through all tests. The students were then to complete a homework assignment where they have to gather their VO2 max, MET level, and scores for flexibility, sit-ups, and push-ups. The students then participated in physical activities 3 days a week for approximately 65 minutes each session. The activities we performed varied, however, all were geared toward activities that can be continued throughout their lifespan. Activities included, but were not limited to, Tae-Bo, step aerobics, aerobics, circuit training, and walking. Post-testing was administered the last full week of my student teaching experience. The same procedures were followed as the pre-testing and each test was given on the corresponding day of the week as pre-testing.

Analysis

Statistical analysis was computed using Microsoft Excel software. The mean, median and mode for each test and component were calculated and compared.

RESULTS

For the males, the mean of the written scores increased from 11.42 to 13.72. The median and mode increased from 12 and 13 to a 14 and 15, respectively, for the males. Increases were seen in the students' cardiorespiratory endurance. With regard to their Rockport Walk Test, decreases were seen in time and average heart rate (HR), which was anticipated as both lower time and HR correlate to increases in physical fitness levels. Time decreased from an average of 702.11 s to 664.56 s and average HR decreased from 162.05 to 152.83. Increases were noted in their scores, VO2, and METS. The average score increased from 96.75 to 97.42, VO2 increased from 55.77 to 59.42, and the average METS increased from 15.93 to 16.95. Increases were also seen in the tests for muscular endurance. The average number of sit-ups increased from 39.83 to 43.28 with scores increasing from an average of 27.38 to 47.08. The average number of push-ups increased from 29.78 to 37 with scores increasing from an average of 29.75 to 41. The results of the flexibility testing were surprising. The average inches achieved increased from 3.01 to 4.02, however; the scores decreased from 2.15 to 1.41, which was not expected. Median and mode were also calculated for each category (Table 1).

For the females, the mean of the written scores increased from 11.58 to 13.52. The median and mode increased from 12.5 and 13 to a 14 and 14, Respectively, for the females. Increases were seen in the students' cardiorespiratory endurance. Rockport Walk Test results were unanticipated. Average time decreased from 820.88 sec to 737.08 sec, however; surprisingly, average HRs increased from 164.57 to 167.38. Also unexpected was a decrease in average score. The scores decreased from an average of 96.26 to 91.69. Projected increases were

observed with regard to VO2, and METS. The average VO2 increased from 47.86 to 48.71, and the average METS increased from 13.67 to 13.91. Increases were also seen in the tests for muscular endurance. The average number of sit-ups increased from 31.67 to 36.67 with scores increasing from an average of 9.48 to 25.39. The average number of push-ups increased from 25.67 to 42.76 with scores increasing from an average of 23.29 to 42.76. The results of the flexibility testing were similar. The average inches achieved increased from 6.25 to 6.80 and the average score increased from .35 to .94. Median and mode were also calculated for each category (Table 2).

DISCUSSION

I was taken aback by the results of this project. While I expected to see some increases in physical fitness levels, I did not expect them to be at such an extreme, especially under such a short period of time. While I believe that these students did improve their overall physical fitness levels, there is the possibility of a confounding variable that may well have positively skewed the results. I do not believe that the students exerted maximal effort during the pre-testing. Failure of students to put forth their utmost effort in the pre-test may have caused an inaccurate increase in levels during the post-testing.

Despite the fact that the results may have been skewed, I believe that a majority of the results would have seen increases without the confounding variables encountered. The students worked hard during our physical activity sessions and demonstrated the appropriate methodology for monitoring heart rate during exercise. This study is a very good illustration of how regular exercise can improve physical fitness levels and restore your health in a short time period.

CONCLUSIONS AND RECOMMENDATIONS

Based upon the results of this study, one can assume that the children of modern society are unaware of the health risks associated with poor exercise regiments and malnutrition. In addition, schools blatantly disregard expert advice from numerous studies that point out the health risks. They do follow government guidelines with regard to school food programs. But yet in spite of the proven adverse effects of poor nutrition, continue to allow students to purchase cokes and "goodies" in vending machines located on school premises, often times in the very cafeterias that are "following government standards." I have found that through a well-organized wellness curriculum, it is possible to make students aware of the adverse health risks and help them gain motivation toward exercise, physical activity, and nutrition awareness.

The American Association for Health, Physical Education, Recreation, and Dance (AAHPERD) and the Tennessee Association for Physical Education, Recreation, and Dance (TAHPERD) both promote physical activity and healthy nutrition habits. It is both professional

organizations' belief that students need a more in-depth curriculum with regard to these conditions.

There are many professional development options with regard to nutrition and physical fitness. First, there are many continuing education seminars available for teachers to attend. The downside is that most cost a fee, however, the information available is beneficial to all teachers, not just physical educators and/or wellness teachers. There are many providers. TAHPERD and AAHPERD hold annual conferences and you do not have to be a member to attend these conferences or the seminars held at the conferences. Another professional development activity pertains to teacher in-service. School systems have many staff development/in-service days per school year. It is very feasible to have a qualified professional come speak at an in-service and provide information to a large number of teachers and administrators.

It is very easy to incorporate technology into any wellness curriculum. There are devices available to track one's steps/mileage. One such example is a pedometer. The President's Council for Physical Fitness offers a very good model for $16.50. It tell you how many steps you have taken, converts it to mileage, displays the amount of calories burned, and you can change stride length in order to distinguish walking from jogging and running. Another way to incorporate technology is to purchase computer software. There are many programs geared toward fitness and nutrition tracking. FitnessGram® is a good software package that incorporates both topics. An additional way to integrate technology in a wellness program is to use the Internet and PowerPoint presentations in lesson planning. Most schools have television monitors in the classrooms that can be/are connected to a computer. It is very easy to create PowerPoint presentation and include Internet links to various sites. This makes for interesting classes and also helps students keep interest in the day's lesson.

Grant money is available and can be a great way for a teacher to fund the use of technology in their classroom. Many principals have grant applications available in their office. One can also check with their professional organization.

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Table 1
Male data

PRE Fitness Testing	MALES	Mean	Median	Mode
Rockport Walk Test	N = 19			
Time (sec)		702.1053	743	625
HR		162.0526	156	210
Score		96.75	96.5	98
VO2		55.76938	57.815	40.37
METS		15.93375	16.52	11.53
Sit-Ups				
Number		39.83333	40.5	50
Score		27.38462	18	-1
Push-Ups				
Number		29.77778	26	20
Score		29.75	23.5	11
Sit & Reach				
Inches		3.013158	2	1
Score		2.153846	1	1
Written Test				
Score (15 pts)		11.42105	12	13

POST Fitness Testing	MALES	Mean	Median	Mode
Rockport Walk Test	N = 19			
Time (sec)		664.5556	667	#N/A
HR		152.8333	170	170
Score		97.41667	97	97
VO2		59.31333	58.685	#N/A
METS		16.94583	16.77	16.77
Sit-Ups				
Number		43.27778	44	40
Score		47.08333	51	51
Push-Ups				
Number		37	35	35
Score		41	35	31
Sit & Reach				
Inches		4.027778	3.75	1
Score		1.416667	1	1
Written Test				
Score (15 pts)		13.72222	14	15

Table 2
Female Data

PRE Fitness Testing	FEMALES Mean	Median	Mode
Rockport Walk Test	N = 24		
Time (sec)	820.875	814	766
HR	164.5714	165	144
Score	96.26316	97	98
VO2	47.85789	47.44	44.21
METS	13.67368	13.56	12.63
Sit-Ups			
Number	31.66667	34	36
Score	9.47619	3	0
Push-Ups			
Number	25.66667	24	20
Score	23.28571	19	12
Sit & Reach			
Inches	6.25	5.75	5
Score	0.345238	0	0
Written Test			
Score (15 pts)	11.58333	12.5	13

POST Fitness Testing	FEMALES Mean	Median	Mode
Rockport Walk Test	N = 24		
Time (sec)	737.0833	722.5	716
HR	167.375	175	180
Score	91.6875	97	98
VO2	48.70938	48.505	#N/A
METS	13.91688	13.86	#N/A
Sit-Ups			
Number	36.66667	38	40
Score	25.38889	18	32
Push-Ups			
Number	32.70833	30	20
Score	42.76471	55	55
Sit & Reach			
Inches	6.802083	6.625	6
Score	0.944444	0.5	0
Written Test			
Score (15 pts)	13.52174	14	14

Appendix 1

Fitness Assessment Form

Name		Date	RHR
DOB	Age	Height	Weight

PRE-

Rockport Walk Test

Minutes
Seconds
Heart Rate
RPE

Fitness Scores

Sit & Reach
Push-ups
Sit-Ups

Rep Max Test

Weight
Reps

POST-

Rockport Walk Test

Minutes
Seconds
Heart Rate
RPE

Fitness Scores

Sit & Reach
Push-ups
Sit-Ups

Rep Max Test

Weight
Reps

Appendix 2

Physical Fitness Assessment Worksheet

Flexibility – Sit and Reach
To find results visit: http://www.exrx.net/Calculators/SitReach.html and follow directions.

Measurement: Pre:_____inches
Post:_____inches

Complete the following:
Pre: Score:_____Rating:_____
Post: Score:_____Rating:_____

Muscular Endurance – Push-ups and Sit-ups
To find results visit http://www.exrx.net/Calculators/PushUps.html and follow directions.
To find results visit http://www.exrx.net/Calculators/SitUps.html and follow directions.

Push-Ups

How many? Pre:_____Post:_____

Complete the following:
Pre: Score:_____Rating:_____ Post: Score:_____Rating:_____

Sit-Ups

How many? Pre:_____Post:_____

Complete the following:
Pre: Score:_____Rating:_____ Post: Score:_____Rating:_____

Muscular Strength – 1 RM Test
To find results visit: http://www.exrx.net/Calculators/OneRepMax.html and follow directions.

Pre: Weight lifted_____Reps performed_____
Post: Weight lifted_____Reps performed_____

Complete the following:
Pre: 1 Rep max_____50%_____75%_____80%_____
Post: 1 Rep max_____50%_____75%_____80%_____

Cardiorespiratory Endurance – Rockport Walk Test
To find results visit: http://www.exrx.net/Calculators/Rockport.html and follow directions.

Age:_____Sex:_____ Time: Pre:_____Min_____Sec
Time: Post:_____Min_____Sec

Complete the following:
Pre
METS:_____VO2Max:_____Score:_____Rating:_____
Post
METS:_____VO2Max:_____Score:_____Rating:_____

Appendix 3

Physical Fitness pre-/post- test

Name: _____ Date: _____ Period: _____

1) Which of the following is NOT a component of physical fitness?

a. Muscular strength
b. Cardiovascular health
c. Cardiorespiratory endurance
d. Flexibility
e. Body Composition

2) When a person is able to move their joint freely through a full range of motion, they are said to have good _____.

3) Performing bicep curls will help increase the strength of the biceps brachii muscle.

T _____ F _____

4) Match the following items to the appropriate definitions.

a. Muscular strength	1. Ability of a joint to move freely through a full range of motion.
b. Cardiorespiratory endurance	2. Fat and nonfat components of the human body.
c. Muscular endurance	3. Ability to exert maximal force against resistance.
d. Flexibility	4. Ability of a muscle to exert submaximal force repeatedly over a period of time.
e. Body Composition	5. Ability of the lungs, heart, and blood vessels to deliver adequate oxygen to cells during prolonged activity.
	6. Max amount of oxygen a person is able to use per minute of physical activity.
	7. Ability to perform vigorous physical activity without undue fatigue.

5) Tolerable body weight

a. Is the amount of total weight that one carries in their body.
b. Is the amount of muscle weight that one carries in their body.
c. Is the amount of fat weight that one carries in their body.
d. Is the weight one should be with % body fat taken into account.
e. Is how much fat and/or fat cells one has in their body.

6) Describe the difference between lean body mass and fat mass.

7) In creating a personal fitness plan, which components of physical fitness do you utilize? How/why is this plan an important aspect for health promotion?

8) Describe how you would utilize a personal fitness program designed for you. Can you use the plan to monitor your fitness levels? How?

A Pre-test/Post-Test Analysis of Techniques in Teaching Literary Terms

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Abstract

In the Fall of 2002, at my first student-teaching assignment, I embarked upon teaching Chaucer's *The Canterbury Tales*. In order to teach these tales effectively, I found it necessary to add a few literary terms to the students' vocabulary. The pre-test was administered on the first day of teaching and the post-test was administered on my last day of teaching. Students did improve in their ability to recognize these terms after a 4-week instructional unit which consisted of direct instruction, discussion classes and many written opportunities to recall the information learned during class.

In the beginning, all men were created equal. Then, things changed. Now, in the United States and around the rest of the world, there are a lot of inequalities, especially in our education systems. I, just starting out in the education world, have no real ways to correct this problem, but with a little help from those before me, and some real interest in trying to teach *all* children, I believe there might be some really tangible ways to close the gaps between the classes, races and religions enough to make sure that *all* children receive a topnotch education.

At this urban high school, the student body was made up of 13 white and 997 black students. There were no other ethnic cultures present. The economic standing of more than 90% of these students was upper lower-class at best. Most students held jobs to help out with the household bills, not just to earn "gas money" or money for those great new shoes that Mom won't buy. There were gang members among my students, pregnant and unwed girls, children with no parents and those were just some of the hardships they were facing. My students were at risk and many had "history of school absenteeism, poor grades, low reading and math scores, low self-esteem, a history of behavioral problems, [and] difficulty identifying with others." (Cardon & Christensen, 1998) My challenge was to teach these seniors, English, specifically The Canterbury Tales by Geoffrey Chaucer.

Facing these students my first day, I had no idea what they were capable of accomplishing in an English classroom. I did ask my cooperating teacher and she offered that "they can do pretty much whatever they need to in order to pass senior English." Not knowing what that really meant, I set out to do a little pretest of my own, which proved that they did care about their grades, for the most part, but they had little to no knowledge of literary terms.

My pre-test was a crossword puzzle which gave the definitions of the literary terms as clues. They were not happy with the pre-test. I did not tell them that it was a pre-test and that the grade would not count, because I have already learned that if students know it is not for a grade, they will not do their best, if they do it at all. There were five 100's, or perfect scores, but the majority of students were unable to complete *any* of the answers. I knew then that I would have to really work with these students if I wanted them to be able to discuss literature using literary terms.

After all students completed the test, I did review the answers with the students. At that point, some students expressed that the answers were familiar and in some cases, were what they thought the answer should be, but that they could not spell the word correctly and thus, as the pre-test was a crossword, could not fill in the answers. There were many complaints that they could have made better grades had I given them a list of words to choose from to help them with the spelling. To this I answered, that inside of each desk, was a dictionary and that I saw few, if any, students use those dictionaries to help them complete the crossword. I did give them that I had instructed them that it was a test and as such, they believed that they were not allowed to use these dictionaries. I had to concede that this was probably true and since they had not ever had a test given by me, they were basing their test-taking requirements on the cooperating teachers's rules of conduct. Should I use this pretest again, it would be beneficial to announce that dictionary usage is allowed. If dictionaries are not to be used, it should not be a crossword, if the objective is to identify the terms and definitions as opposed to spelling.

The next class period, I gave each student a handout with every literary term and its definition. Students were told that every class period, they were to have that handout on their

desk and use those terms to discuss the literature. I also announced at that time, that those students who received a perfect score received five bonus points and those who did not, were not penalized for not having known the terms. I then explained my goals and the purpose of the pre-test. They seemed more at ease with me then, because they were quite irritated with the "pop-quiz" I gave them on my first day. As I would learn, trust was very necessary in order to keep my students' attention, and giving a test when they weren't expecting it, over terms that we had not discussed greatly hindered me in the beginning with having their trust.

As trust was important, I tried to make an environment that enabled the students to feel comfortable enough to make mistakes. This was a little difficult since my students enjoyed "joog-in[1]" or teasing each other. I was careful to point out whenever I made mistakes, so my students could see that I was not afraid or ashamed of my errors. After my first few attempts at a "discussion," (which turned out to be little more than direct instruction), I noticed that my students would just write down whatever I said and take it as the truth. I then began a different approach to "discussions."

I, as the teacher, made sure to model the use of the literary terms during direct instruction and discussions. I tried not to offer them any definitions, as I wanted them to refer to their handout and reread the definitions over and over again. Getting them to memorize those terms and definitions, proved to be the easy part, getting them to understand how to use them and actually having them become a part of their vocabulary, was another story.

My first successful discussion started out with me presenting a possible representation of the "old man" in the *Pardoner's Tale* was symbolizing. I started with suggesting that he was representing death, since he lead the three thieves to their death. The students seemed able to

follow this suggestion and agreed with me. Then, I threw them another possibility. I then suggested that the old man could be a symbol for Satan, since the Pardoner, who was telling the tale was employed by the church and could be telling the story for some higher moral purpose. THEN, I went further and suggested that the old man could be GOD, and then made reference to the biblical story, JOB wherein Job was tested repeatedly. Now, they were confused. They asked me which was correct and which was wrong. I told them then that they all were. It was a good lead-in to telling them that the analysis of literature doesn't always have "rights" and "wrongs," but many possibilities. After that day, they started participating more in the discussions, which helped them to begin taking chances by analyzing the literature themselves.

As we discussed *The Canterbury Tales*, I kept a running outline on the board. Students were required to copy the outline as we completed it in class and keep in the English notebooks which I would "take-up" for a grade randomly. The outline was worth 35 out of 100 points and I made it so to show the importance of the outline. The outline itself was simple. It was the standard, Roman numeral, capital lettered, numbered outline they were taught in middle school, with one exception: I added pictures. When we were discussing imagery, I would draw an ear if it was hearing oriented, eyes for sight oriented descriptions, hands for touch, a nose for smell and, easiest of all, a mouth for taste. Being as we were reading Chaucer, there was plenty of imagery used to help describe his characters. This helped the students to actually experience how the imagery was working instead of just calling it imagery. Moreover, if the students saw the picture beside the description, they immediately knew which vocabulary word we were discussing. At a glance, they could review their outlines and pick out

all imagery notes. In addition, for those students who must "doodle" anyway, it gave them a productive "doodle" to work on during class.

I was faced with the question, repeatedly, as to why it was important to use those terms. I wondered that myself. Was what I was trying to teach them valid? Was I just doing it because I had learned it when I was in school or because it was actually necessary? I decided it was necessary. Regardless of their hardships, many of my students planned to attend college. I found that there was actually a wealth of scholarship opportunities for these students and was pleasantly surprised at how many students had actually made plans to attend. I decided that those students would need to know these terms not only for the discussions and the papers they would have to write in English composition, but they would need to understand these terms for the entrance exams as well.

My bigger problem was deciding if those students who had no intentions of going to college needed to know these terms. I did know that all "high school students--whether suburban or urban, minority or dominant, privileged or impoverished, native English speakers or ESL learners--are capable of reading classical literature" (Pavonetti, 2000). I came to my conclusion that they *did* in fact need to learn them as well, based upon two factors. One, just because those students did not wish to further education, it did not mean that they were any less worthy of a full-scale education in senior English. I had decided before I began teaching, that all of my students would receive the best that I had to offer, and teaching with the correct terminology of the literary scholars was part of that deal. If I were teaching Spanish, science, history or drama, I would not use different vocabulary for college-bound and non-college bound students, therefore, I intended to teach my students as if my class was just a beginning to their lifelong journey into literature. Secondly, my students could change their minds about college. At 17 and

18 years old, many students are still undecided about what they intend to do with their lives, so why should I base my class upon their current decision not to further their education? My class, I decided, could at least introduce them to standard literary study that they could refer to, no matter how many years separated my class and their higher education beginnings.

Therefore, I decided to continue with teaching the literary terms in the context of *The Canterbury Tales*. I continued with the discussion forum, now that the students had learned my techniques and realized that there were many possible "right" answers. I also used a series of quizzes and warm-ups to get them used to recalling the information discussed in class on their own. The warm-ups were usually a few questions, designed to take them 10 to 15 minutes at the most, related to the discussion we had the day before. We also played a game called "I Have...Who Has" which consists of 25 answers on one side of note cards and the questions on the other side. One student may have the card which says, "I have whom the old man symbolizes in the *Pardoner's Tale* and another student would have "DEATH" on his/her answer side of the card. I timed the game so that each class was competing with each other. They loved this game! All of these recalling exercises seemed to help, as they did perform better on the final test than they did on the pre-test.

Beyond the actual teaching techniques, I found it helpful and necessary to add some, what I call, "housekeeping" to class. I distributed the rules to every student so that they knew what I expected from them. I also posted an agenda each day, listing all of our tasks that had to be completed each day. The agenda was quite effective. After they became accustomed to finding the tasks posted each day, they seemed to be more relaxed. They knew ahead of time what would be expected from them before I started class. They could walk into my classroom on any given

day and know what we were going to do. It was nice not to be asked "what are we going to do today?" and it was nice to have our goals posted so that even I could follow it throughout the class period. By the time the final exam came around, the students had learned to look to the right hand-side of the board for long-term calendar due-dates and on the left-hand side of the board for the daily agenda and warm-up activities. They were as ready as I could get them after the 4-week unit.

On the post-test, I incorporated the literary terms with the rest of the final exam. It was a matching test, with the definitions on one side and the terms on the other. There were questions in the multiple-choice section which asked that the student recognize a symbol in context, or recognize an example of Chaucer's use of imagery, but as the pre-test did not test the students' knowledge of using these terms in context but only their recognition of the terms and their definitions, I kept the post-test as simple as possible.

The results of the post-test were encouraging. As I had never taught before, I was happy to see an increase in the number of correct answers. There was a 55% average on the post-test and only a 10% average on the pre-test. The class with the highest average of 65%, was the fourth block class. This class was the most outgoing class of the three. First block was usually still asleep, literally. The fifth block class was at the end of the day, when the classroom was very hot, which made it difficult to concentrate. Fourth block was after lunch, so they had eaten, the room was only mildly hot and the students were awake. I have no way assess if these differences in the classroom atmosphere affected the outcomes of their scores, and I do not know if there were more "advanced" students in one class over another, but felt that the differences were worthy of mention here.

All in all, the 4-week unit of *The Canterbury Tales,* in which I focused upon the literary terms *imagery, couplet, satire, characterization, symbolize, iambic pentameter, personification,* and *irony,* proved to be an educational unit for both my students and myself. Should I take a permanent position in another urban school, I would like to employ the agenda, long-term calendar and the same discussion techniques that I used here. I think though, that the pre-test should not have been given on my very first day, as it severely caused a trust problem that caused me to lose precious teaching time. I do believe that 4 weeks on *The Canterbury Tales* wherein we studied *The Pardoner's Tale, The Wife of Bath's Tale, The Knight's Tale* and *The Prologue* was not enough time. However, with a focus, such as the literary terms, it kept me on a better schedule than flying from tale to tale trying to fit it "all" into my unit.

I am unaware of any grants that are available for teaching the unit, as I found little to no literature regarding the teaching of the *Tales* in urban schools, let alone any grants for the same. I can't see a need for a grant, as this school as most urban schools, have TITLE I funds to help them. My techniques did not require any extra funds, just extra planning, so I did not research as the need was not there.

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Footnotes

[1]This is a slang term students use for describing when they or someone else is teasing or making fun of another student. It is not a real negative term; it has a more playful connotation.

Appendix I. 1st Block

Student Number	Possible Points	Pts PRETEST %		Pts POSTTEST %	
1	8	1	12.5	3	37.5
2	8	0	0	6	*75*
3	8	1	12.5	7	*87.5*
4	8	0	0	1	*12.5*
5	8	0	0	0	*0*
6	8	1	12.5	8	*100*
7	8	0	0	8	*100*
8	8	0	0	3	*37.5*
9	8	0	0	8	*100*
10	8	0	0	0	*0*
11	8	0	0	3	*37.5*
12	8	0	0	8	*100*
13	8	0	0	2	*25*
14	8	0	0	3	*37.5*
15	8	0	0	1	*12.5*
16	8	0	0	3	*37.5*
17	8	0	0	4	*50*
18	8	0	0	5	*62.5*
19	8	0	0	5	*62.5*
20	8	0	0	6	*75*
21	8	0	0	1	*12.5*
22	8	0	0	4	*50*
23	8	0	0	5	*62.5*
24	8	0	0	1	*12.5*
25	8	0	0	3	*37.5*

** Percent column shows the percent of answers the student(s) got correct on test. This was calculated by taking the received points and dividing them by the possible points, then multiplying by 100.

Appendix II.

4th Block

Student Number	Possible Points	Pts PRETEST %	Pts POSTTEST %
1	8	8 100	8 100
2	8	8 100	8 *100*
3	8	8 100	8 *100*
4	8	8 100	3 *37.5*
5	8	1 12.5	4 *50*
6	8	1 12.5	5 *62.5*
7	8	1 12.5	8 *100*
8	8	1 12.5	8 *100*
9	8	1 12.5	4 *50*
10	8	2 25	4 *50*
11	8	2 25	6 *75*
12	8	2 25	5 *62.5*
13	8	0 0	3 *37.5*
14	8	0 0	3 *37.5*
15	8	0 0	6 *75*
16	8	0 0	5 *62.5*
17	8	0 0	7 *87.5*
18	8	0 0	1 *12.5*
19	8	0 0	2 *25*
20	8	0 0	0 *0*
21	8	0 0	8 *100*
22	8	0 0	6 *75*
23	8	0 0	0 *0*
24	8	0 0	8 *100*
25	8	0 0	7 *87.5*
26	8	0 0	7 *87.5*
27	8	0 0	8 *100*

*One student scored lower on post-test than he/she did on the pre-test.

** Percent column shows the percent of answers the student(s) got correct on test. This was calculated by taking the received points and dividing them by the possible points, then multiplying by 100.

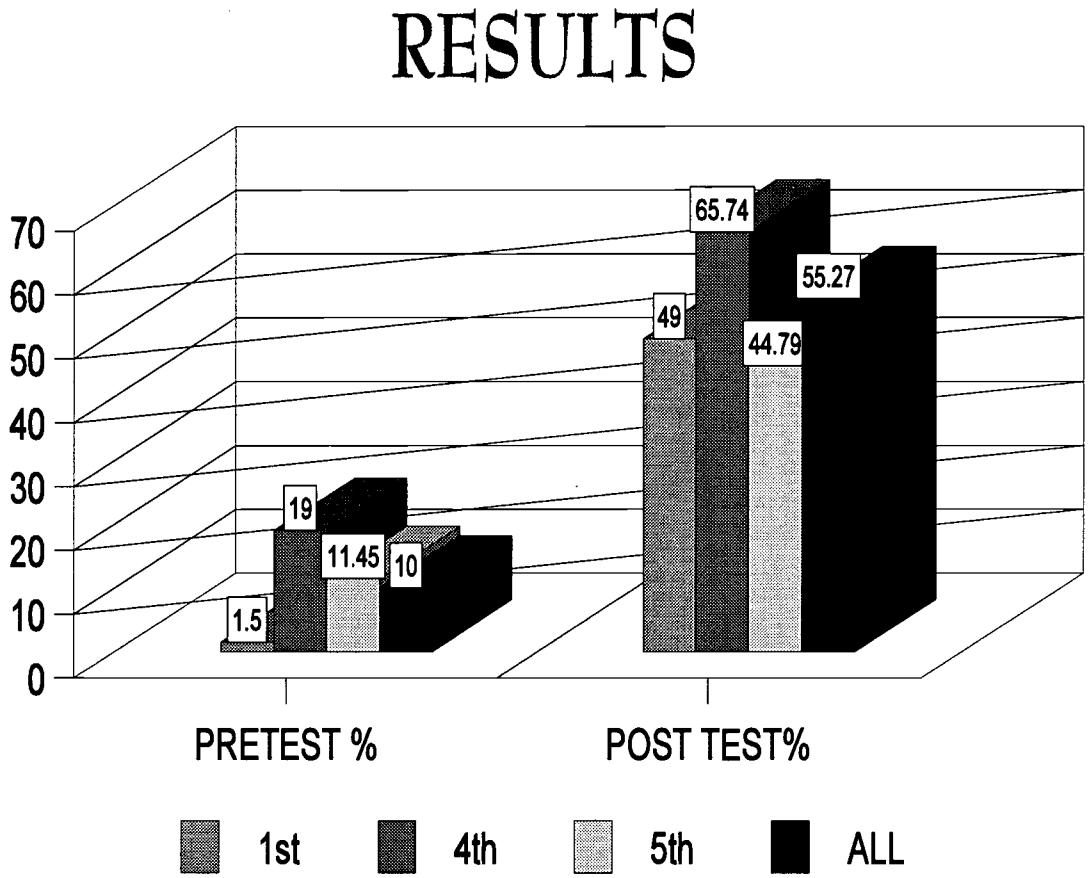
Appendix III.

5th Block

Student Number	Possible Points	Pts PRETEST	%	Pts POSTTEST	%
1	8	100	100	2	25
2	8	12.5	12.5	6	75
3	8	12.5	12.5	4	50
4	8	12.5	12.5	2	25
5	8	0	0	3	37.5
6	8	0	0	0	0
7	8	0	0	7	87.5
8	8	0	0	8	100
9	8	0	0	3	37.5
10	8	0	0	2	25
11	8	0	0	4	50
12	8	0	0	2	25

*One student scored lower on post-test than he/she did on the pre-test.
** Percent column shows the percent of answers the student(s) got correct on test. This was calculated by taking the received points and dividing them by the possible points then multiplying by 100.

Appendix IV.



Appendix V.
Final Exam/Evaluation

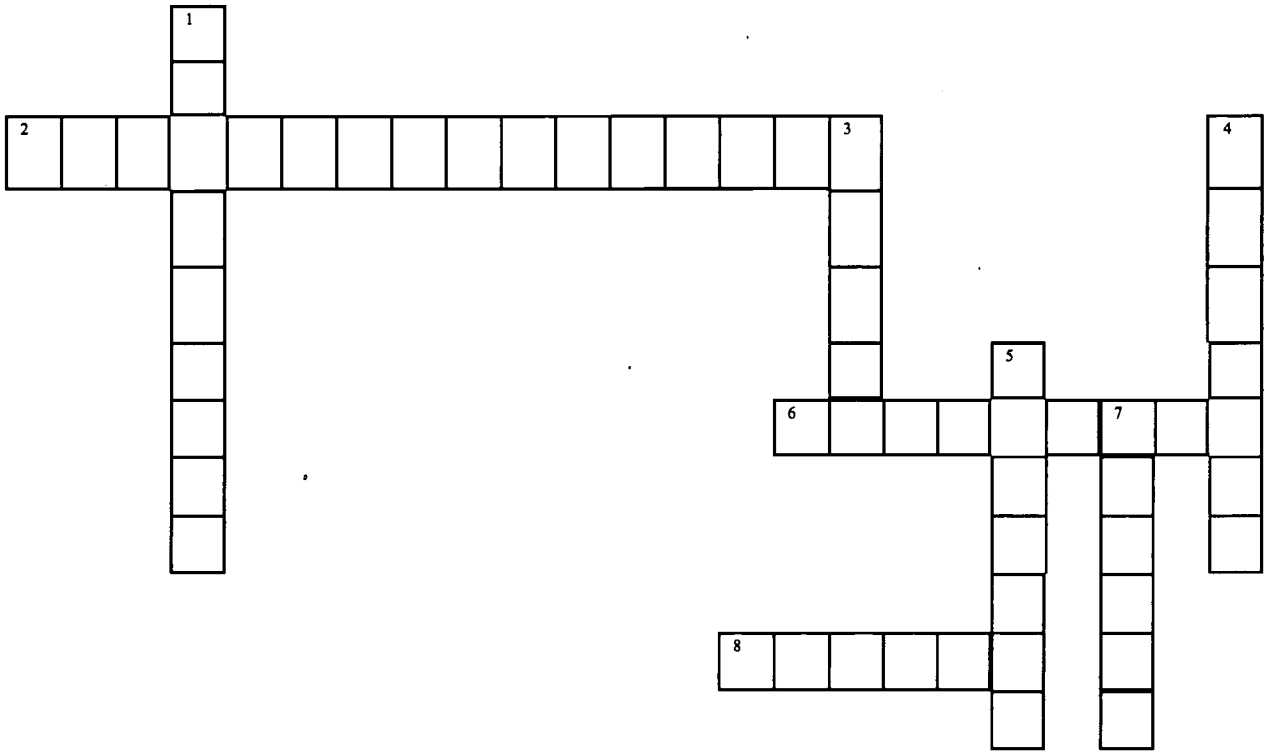
1. _____ Imagery
2. _____ Couplet
3. _____ Satire
4. _____ Characterization
5. _____ Symbolize
6. _____ Iambic Pentameter
7. ~~_____ Chaucer~~
8. _____ Personification
9. _____ Irony
10. _____ Satire

A. Contrast between reality and fiction
B. Two consecutive rhyming lines in a poem
C. Flashy, well-dressed, young, "lady's man"
D. Type of writing technique wherein the writer makes fun of some human imperfection and usually written to evoke change
E. Author of The Canterbury Tales
F. Has taken an oath of silence and poverty, but is wealthy & talkative
G. Five feet which alternate unaccented & accented syllables in a poem
H. Long Poem
I. Process a write uses to reveal the personality of a character
J. Type of writing which argues a different point of view
K. Character which "sells" cleansing of sins, greedy
L. Words or phrases which appeal to the senses used to help describe
M. Metaphor which gives human characteristics to a non-human
N. Use of an object to represent another

#7 not used in determining scores for this study, but was a part of the original final exam.

Appendix VI.
Pretest

Literary Terms for Canterbury Tales



Across
1. pentameter - five "feet"
3. writing that is used to show human weakness & evoke change
8. to give a non-human human characteristics
Down
2. how a writer "creates" his/her characters
4. to use an object to represent another
5. descriptive words that appeal to senses
6. two rhyming lines in a poem
7. contrast between reality and fiction

8 of 8 words were placed into the puzzle.

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Drew White
EDUC 590
Fall 2002, Research project

Case study option A

Introduction

Physical education (P. E.) and sports have played a major role in my life as far back as I can remember. I have played sports for almost 20 years, and have found enjoyment in physical activity and the benefits from it. My life has been impacted and changed by those who have taught physical education and coaches who have helped me in my past. Now that I am growing older, looking back I can appreciate what physical education has meant to me. I am looking for the opportunity to give back to all that I have learned and to teach what has been taught to me. Throughout my junior high and high school days, I was one who would critique the way that my physical education teachers taught. I remember thinking about what I would like to change, and what I liked about my physical education classes. I have come to realize that physical education is lagging behind in comparison with some of the other subjects that are taught in schools. If a program is going to be cut for financial purposes, it is most likely going to be physical education. The thought in many educational settings is that P. E. is just free time with no learning taking place. This fuels my desire to be a good P. E. teacher, to prove the value of a P. E. program to overall academic success, and to build a program that will last in a school system. I want any edge that I can get to build a program that can succeed.

This leads into the problem that I will be researching. Physical education has had to adapt to the changes that have been made in the educational setting. One of the biggest changes has been the move to block scheduling. With that change has come many changes and adjustments in the curriculum of educational programs. This move has affected the way that physical education has done things in the past, as it has all subjects.

This is why I was interested in researching more into this issue, and what physical education teachers are doing about it. I do not want to see physical education get dropped from more school systems because P. E. programs are not able to adjust. All of these reasons and my desire to run a quality physical education program have led to my decision to look further into this issue.

Description of Problem

Block scheduling moved away from the regular schedule of school that included six classes in one day with short time spans for each class. Part of the daily schedule is organized into larger blocks of time (more than 60 minutes) to allow flexibility for diversity in instructional activities. Possible examples of a block-scheduling curriculum include:

- Four 90-minute blocks per day; school year divided into 2 semesters; former yearlong courses completed in 1 semester.
- Alternate day block schedule: six or eight courses spread out over 2 days; teachers meet with half of their students each day.
- Two large blocks and three standard-sized blocks per day; year divided into 60-day trimesters with a different subject taught in the large blocks each trimester.
- Some classes (such as band, typing, foreign language) taught daily, others in longer blocks on alternate days.
- Six courses, each meeting in three single periods, and one double period per week.
- Seven courses. Teachers meet with students 3 days out of 4--twice in single periods, once in a double period.

This move has created many changes in educational curriculum in all subjects. Physical education has had to make many changes to try to accommodate this new schedule for the school year to try and reach objectives. The most difficult problem facing physical education teachers is the issue of time management in the block-scheduling period. The struggle lies in keeping students motivated and interested in a physical activity for that length of time. This is not only a struggle for physical education teachers, but also for all

subjects. However, P. E. is at a disadvantage because there are no textbooks, homework, or set classroom schedule. While other subjects can assign a student to work on problems or homework, those in physical education have to develop skills to meet objectives for that length of time. This is where the challenge, or problem, lies. With the change in curriculum to try to meet the time management challenges that are faced, objectives that are trying to be reached can be affected.

Standards must be met in a quality physical education program. To put a definition to standards in a P. E. program, one must know several basic essential components of standards in a quality program. A quality program teaches lifetime activities that students can use to promote their health and personal wellness. Other components include teaching physical activity and motor skills, implementing inclusion of all students, focusing on learning correct form, learning responsibility and cooperation, and promotion of diversity. The main standards I will be measuring, however, deal with the state standards that must be met by physical education teachers. With the understanding of what block scheduling is all about and what objectives a quality physical education program must have, the two must work in harmony. This leads me to my problem in dealing directly with the students in block scheduling. As mentioned earlier, those standards just listed are more difficult to reach because they must be altered to meet the issue of involving students for that length of time. This leads to a clear statement of my problem in the form of a question: Can state standards be reached in physical education with the move to the block-scheduling format?

Review of Literature

Advantages of block scheduling. Block scheduling can be an advantage when trying to

reach objectives in physical education. The move to the block-scheduling format has resulted in positive change for many educators. In a study done by David Stadler and Brian DeSpain (1999), 152 teachers and 62 administrators were sent questionnaires about four categories: student achievement, school climate, teacher methodology, and an overview section. Results find that teachers and administrators believe block scheduling has improved student achievement. Educators perceived an improvement in the quality of student work, depth of subject matter covered, student's retention of material, and an increase in enrollment in advanced courses (Stadler & DeSpain, 1999, p. 17). This move to block scheduling has revolutionized the way physical educators are conducting their classrooms. The reason for this change in the classroom is due to the amount of time available in each class. Pressure on physical educators to include more content in the curriculum limits the time available to develop students' functional physical and motor skills (Kelly, 1989, p. 30). Realizing this, the extra time can be a big advantage to physical education teachers. Can objectives still be met? The reviewed articles not only gave idea to the thought that objectives can still be met, but they can also be improved and expanded with the block-schedule format. According to surveys done by James Bryant and David Claxton (1996b), block scheduling is the only teaching format where objectives truly can be met (Bryant & Claxton, 1996b, p. 204). This could mean great steps for not only physical education, but also the overall academic setting. Results indicate that more time can be spent in physical education and that the increased time may result in improvement in other academic areas (Shepard, 1997, p. 19). These are a few examples of how block scheduling can be very positive for the physical education setting. These advantages can only take place with the development of proper

curriculum, and setting attainable goals before the school year begins. When done properly, physical education is accelerated, the objectives are reached, and a new realm of teaching is able to take place due to the new and improved format.

Disadvantages of block scheduling. Block scheduling, when unprepared for, can create a tremendous challenge in the classroom. Physical education is not an exception; in fact, is in the forefront of subjects as far as potential problems when trying to implement curriculums. Time management is essential. When not done efficiently, it can create a chaotic environment in physical education. The major problem lies in involvement and motivation of students for the longer, extended periods of time. According to an article by Kristine Dawson-Rodriques, Barry Lavay, and Karen Butt, proper transitions between instructional units are necessary to run physical education classes effectively and minimize student behavior problems (Rodriques, Lavay, & Butt, p. 33). The issue of motivation in the physical education classroom has been an age-old question. This question asserts itself even more in the block-scheduling format. This reverts back to the problem statement: Can objectives be met in an environment where a teacher must motivate students for an hour and a half? The answer lies, according to an article by Keven Prusak (1997), in the adjustment of the objectives and what is trying to be accomplished in physical education. A teacher must be realistic and understand that he or she will not be able to involve students for an hour and a half in just physical activity. That is why the movement in block scheduling of physical education has been more towards that of overall total health and wellness, not just physical activity (Prusak, 1997, p. 10). Students who are not interested in the physical part of physical education will not be interested in playing games or doing physical activity for an hour and a half. That is

why many adjustments are vital to the outcome of the class, and it all begins with setting objectives.

Summary: Clearly, there are both positive and negative outcomes of the move to block scheduling in the physical education setting. The extra amount of time is very good for physical education in one aspect, and can also lead to problems in the other. Regardless of the time length of the class, objectives, stated earlier in the paper, must be met (Bryant & Claxton, 1996a, p. 50). Meeting objectives has to be the first priority in the physical education classroom. Block scheduling provides a greater opportunity for those objectives to be met than in the regular classroom because of the extended time the teacher has with the students. This is the big advantage of block scheduling. It is ironic that the advantage to meeting the objectives would also be the disadvantage. This disadvantage of involving students for that length of time, however, can be avoided with proper planning and adjustments in the objectives and curriculum. The teacher has to be willing to adjust his or her teaching style to the dynamics of the new time periods. Upon making the adjustment, block scheduling can be one of the more positive changes that has happened to physical education in quite some time. Without proper adjustments and corrections, however, the new format will result in a very negative experience for the students.

Method

Population: The population of my study will include the two schools that I am student teaching at for the fall semester. My study will include the 16 weeks assigned to us as student teachers. Both schools are public schools in Hamilton County. Both schools are magnet schools, and are based upon learning through teaching of the fine arts in every

academic area. The schools are similar based in their curriculum, making this study much more valid. One school is a middle school, including grades 6-8. At this school, which for the study's purposes I will call School A, each student participates in physical education in his or her sixth and seventh grade years. For the purpose of this study, I am choosing to measure the seventh graders. School A has a daily schedule where each class meets for 1 hour and 10 minutes, or block scheduling. We had five classes each day, each being 1 hour and 10 minutes long. School B is an elementary school. This school includes students from kindergarten to the fifth grade. Each student participates in physical education from kindergarten through the fifth grade. Our classes for this school met for 45 minutes each, and we saw approximately six classes per day.

Measurement: I will ask each physical education teacher that I am studying to provide a list of the standards they are trying to reach in the 8 weeks I will be there. I will then send out a questionnaire to School A's teacher concerning the steps he is taking to make sure these standards are met in the block-scheduling format. He will be asked questions that pertain to issues in physical education and how block scheduling has altered the methods in reaching the standards. Issues that will be questioned include:

1. How is the teacher keeping the students on task?
2. What styles of teaching are being used?
3. How are the teachers dealing with classroom management for that length of time?
4. What adjustments have to be made, if any, to reach the state standards?

Once he has been given the questionnaire, I will also have the students of these classes fill out surveys about the format of the physical education class. The surveys for the students will be divided into three main distinct sections. The first will be fact-based questions about the methods that the teachers are using to introduce, teach, and motivate

the students to practice the skill. The second will be about the changes that they see coming from a regular class period to a block-scheduling period in the teaching methods of the physical education teacher. The final section of the survey of the students will be to find out opinions about what they think of the block schedule format. This section is opinion based with the goal of trying to see thoughts, opinions, and attitudes about the change. The purpose of these surveys is to find out how effective these teachers are in reaching standards in this format. The reliability will be based upon the direct questions posed and answered by the teachers themselves. Due to this fact, this study will be both reliable and valid. Validity comes with the questions of both teachers and students that directly pertain to the issue that I will be studying. For School B, I will pose the same questions to him that I did to the teacher at School A. I will ask him how he is directly dealing with the shorter time and still trying to meet standards. Students will not be questioned at School B, only School A, due to the age factors. Also, I will measure the actual standards reached at each 8- week placement, and directly compare the two for a direct result.

Procedure: I will need to have approval of the principal and of the athletic director to do this type of study. Clearly, I will need the cooperation of the teachers to be willing to participate in this study. The groups that I will be surveying are already formed. The groups that I will use are divided by the schedule made for them before school starts. The data will be collected starting at the beginning of my 8 weeks at each placement. I will give out the questionnaires to the teachers as my 8 weeks begin, and the surveys will be given out to the students after several weeks of participating in the classes and learning how the teachers will run the class.

Time line of procedures:

Before semester begins: Obtain necessary approvals, meet and present idea of study to teachers, hand-out questionnaires to physical education teachers
Week 1: observe and record setting of classes
Week 2: continue to observe and record setting
Week 3: hand out survey to students
Week 4: collect data from students
Week 5: observe and record teaching methods and styles
Week 6: observe and record teaching methods and styles
Week 7: analyze data from first placement
Week 8: begin new placement
Week 9: collect data from teacher
Week 10: begin to arrange and calculate statistics for data collected
Week 11: continue to research data collected
Week 12: observe and record teaching methods and styles, continue to review findings
Week 13: observe and record teaching methods and styles, make conclusions on findings
Week 14: gather final information and prepare to present
Week 15: compare both results
Week 16: meet with teachers to present findings and thank them for participating in study

Data Collection and Results

The results of the study were overwhelmingly in favor of block scheduling being more favorable for standards to be reached. The idea of too much time was a non factor, as students were actively engaged throughout the class period at school A. In school B, not every standard was able to be met, as the lack of time resulted in a difficulty to allow for each standard to be reached. The surveys that I collected from the students noted that they were more pleased with the longer classes in physical education. All students surveyed found that each one that I worked with came from an elementary school that had a regular 45 minute class schedule for physical education. In a majority response, the surveys resulted that there was little "dead" time, or time in which students did not have any activity to participate in. In fact, most wished that there was more time for physical education. As far as the number of state standards reached, I did a direct one-on-one

comparison for the amount of time that I spent in the individual schools. The longer class time proved vital for the standards to be met. I compared the seventh grade in school A to the fifth grade in School B. The results were clear: Block scheduling is more efficient for allowing standards to be met in physical education. Results of standards met were as follows: *standards met are indicated below:

Week	**School A** (standards)	**School B** (standards)
1	3.1, 3.2, 3.3, 3.7, 3.10, 4.1	
2	4.2, 4.3, 3.1, 4.4, 4.6, 5.2	
3	3.1, 3.2, 5.2, 5.3, 5.4, 5.5, 5.6	
4	4.5, 4.6, 4.7, 5.8, 5.9, 3.1, 3.2, 3.3, 5.9	
5	2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 5.9, 5.10	
6	6.1, 6.2, 6.4, 6.6, 6.7, 7.1, 7.3, 7.4	
7	8.8, 8.9, 3.2, 3.3, 3.4, 4.5, 5.6, 7.5	
8	9.1,9.2, 9.3	
9		2.2, 2.3, 3.4, 4.1
10		3.1, 3.2, 3.3, 3.4, 4.1
11		5.1, 5.2, 5.3
12		5.4, 5.5, 5.6, 5.8, 5.9
13		6.2, 6.5, 6.6, 6.7, 6.8
14		7.1, 7.3, 7.5, 7.6
15		3.2, 3.3, 4.4, 7.5,
16		8.8, 8.9

For school A, 55 standards were met through the teaching of my cooperating teacher and myself, while only 25 were met in school B. The advantage was the block scheduling allowed us more time to reach these goals.

Conclusions and recommendations

There is a long way to go for physical education as far as an effective curriculum for the block-scheduling format. In fact, all areas of education are searching for how they can improve curriculum. Physical education is an ever-changing field, with exciting new areas of discovery and new ideas about being and staying healthy. This problem needs a lot more investigation to find more solutions and information that can improve this area. For starters, AAPEHRD (American Association for Physical Education, Health, Recreation, and Dance) holds conferences all over the United States for training in all issues of physical education. A trip to this conference and listening to ideas on block scheduling teaching would be very helpful. I came across a book that I did not have time to read, but I know that it would be great for P. E. teachers. It is called *Thinking Inside the Block Schedule: Strategies for Teaching in Extended Periods of Time,* by Pam, Robbins, Gregory Gayle, and Lynne Herndon. It provides an array of strategies that can help teachers, administrators, and staff-development personnel as they plan, develop, and deliver content within extended periods of instructional time. Finally, there is always the need for lots of observation. The way to find out what works is to get out there and find it, observe it, and implement it into one's teaching strategy. I would interview more teachers who have been in or are going through this block-schedule format. I would also interview middle school P. E. teachers who have to prepare their students for this new program. There is an endless amount of research and ways to continue to look into this

problem and ways to improve what is currently done. The question remains: Will there be a move in elementary to the block scheduling? The results are unlikely, due to the age of the students. Elementary physical education teachers will have to continually search for ways to make the most of the time given to reach standards. Revolutionary research is continuing to be done on making the most of the shortened time in elementary physical education. In fact, some elementary teachers are having to deal with only seeing the students for 30 minutes per week.

The other side to these results are that physical education is thriving in block scheduling. I found in my research that standards are able to be met, and more individual time can be given to develop students socially and academically as well. This move has been a positive one for teachers in secondary physical education. As research continues to improve, the opportunity for physical education in both the secondary and elementary levels is unlimited. This research has helped to develop my professional career, and to further my development as a physical education teacher.

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Appendix A

Teacher Survey

1. **What methods are you using to keep students on task?**

2. **What styles of teaching are you using?**

3. **How do you deal with classroom management?**

4. **What adjustments are you making to reach your standards?**

Appendix B

Student Survey

1. **Do you like having more time for physical education class?** **Yes or No**
2. **Are you participating in an activity for the whole class?** **Yes or No**
3. **Do you feel as if P. E. class is to long?** **Yes or No**
4. **What do you like or dislike about block scheduling?**

5. **How does your teacher deal with the longer period of time?**

6. **Is it an advantage to you to have longer classes? If so, how?**

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