

Teaching Public Fire Education Utilizing Current Teaching Methodologies and Recognized
Standards of the Show-Me-State Educational Goals

Executive Leadership

By: Sandra K. Schiess

Independence Fire Department

Independence, Missouri

An applied research project to the National Fire Academy

As part of the Executive Fire Officer Program

February 2002

Visual Aides Section Not Included. Please visit the Learning Resource Center on the Web at <http://www.lrc.dhs.gov/> to learn how to obtain this report in its entirety through Interlibrary Loan.

ABSTRACT

The problem is that the City of Independence Fire Department, after having been invited into the sixth grade classroom has no public fire education curriculum. The purpose of this research project was to develop, present and evaluate such a program. This action research project employed a descriptive, historical, external critique, research design to answer three research questions: What goals and standards are identified in the Missouri Department of Elementary and Secondary Education that would be applicable to life safety curriculum at the sixth grade level? What current educational theories and practices are in use for sixth graders today? What specific elements are necessary and should be included in a program that focuses on fire safety issues that involve both home and other environments? The answers to the research questions provided the information to develop a ten educational unit curriculum that was then presented and evaluated (casual-comparative research format) for effectiveness using a pretest posttest format in an after school enrichment program. Due to administrative restraints only eight of the ten units were presented in the after school environment. The eight units were presented to a group of 12 subjects comprised of 6 females, 6 males, included in these numbers was one physically challenged and one learning abilities challenged subject. A pretest-posttest was administered to the students after having been taught using the life safety curriculum. The null hypothesis tested was: There will be no difference between the pretest and post-test scores of sixth grade students taught using the identified 10 unit life safety curriculum. Data was analyzed using the dependent t-test with alpha set apriori at .05 to find statistical significance. Results to this research project are included and consist of an appendix containing the ten educational unit curriculum. Hard copy of this research project contains visual aides and student workbook, electronic copy does not, but copies are available by contacting the author. Results of the

evaluative portion of this research project indicated with ten of the students completing both the pretest and posttest there was a statistically significant ($t_{(10)} = -7$; $p < .0001$) difference (higher) between the pretest and posttest scores of sixth grade students tested after being taught the life safety curriculum. The null hypothesis was therefore rejected. The instructional intervention was strong, accounting for .85 of the variance between pretest and posttest results. Recommendations included additional refining of the curriculum based on an item analysis of the test results for weak response areas that might be related to the curriculum, addition of a control group in the next presentation and evaluative step and should this second presentation and evaluation of the curriculum support the conclusion of this research project that the efforts be made to incorporate the entire curriculum into the mainstream sixth grade classrooms of the Independence school system.

TABLE OF CONTENTS

	PAGE
Abstract	2
Table of Contents.	4
Introduction	6
Background and Significance	7
Literature Review	10
Procedure	13
Definition of Terms	13
Descriptive Methodology.	13
Action Research Methodology	15
Evaluative Methodology.	15
Materials.	15
Participants	16
Method	17
Analysis	18
Assumptions and Limitations.	18
Results.	19
Discussion	25
Recommendations	28
References	29
Appendix A: Action research results: Curriculum	32
Appendix B: Evaluation Tools.	55

Item 1: Sample pretest Posttest	.	.	.	.	.	.	.	56
Appendix C: Results..	.	.	.	.	.	.	.	62
Item 1: DESE Standards	.	.	.	.	.	.	.	63
Table 1: Pretest/Posttest Results.	.	.	.	.	.	.	.	64
Appendix D: Expert Curriculum Vitae.	.	.	.	.	.	.	.	65
Item 1: Dr. Rebecca Widener.	.	.	.	.	.	.	.	66
Item 2: Dr. Ron Taylor.	.	.	.	.	.	.	.	70
Item 2: Correlation to Andersan & Krathwoh’s Taxonomy	.	.	.	.	.	.	.	58

INTRODUCTION

The problem is that the City of Independence Fire Department currently has no life safety education program for students in the City of Independence School district. The superintendent of the middle school program has agreed to allow a quality program into the sixth grade curriculum. The purpose of this research project is to develop a life safety curriculum to be implemented in the City of Independence schools at the sixth grade level utilizing current educational theories and practices and meeting current statewide educational goals and objectives in risk reduction. This research will be done as an action research project. A descriptive, historical, external critique, research design will be employed to answer the following questions:

1. What goals and standards are identified by the Missouri Department of Elementary and Secondary Education that would be applicable to life safety curriculum at the sixth grade level?
2. What current educational theories and practices are in use for sixth graders today?
3. What specific elements are necessary and should be included in a program that focuses on life safety issues that involve both home and other environments?

The answers to these research questions will be the basis for the development of a ten lesson plan unit on fire safety to be used as a component of the risk reduction curriculum in Independence schools. A pilot program will be conducted as permitted by the Independence School District with a pretest –posttest given to evaluate the effectiveness of meeting the learning objectives. The Null Hypothesis to be tested is: There will be no difference between the pretest and post-test scores of sixth grade students taught using the identified 10 unit life safety

curriculum. Data will be analyzed using the dependent t-test with alpha set aprioi at .05 to find statistical significance.

BACKGROUND AND SIGNIFICANCE

“Prevention education, more then anything else, seems to work.” is quoted from Leadership in Public Fie Education: The Year 2000 and Beyond in Strategies for Marketing Your Fire Department Today and Beyond (USFA, 1998) to support the importance of apply resources to prevention education programs of all types that are successful and effective in “preventing harm” to members of the community. Additionally in this same publication, under the heading of “Ongoing Issues of National Importance” several additional points are outlined:

Prevention and Education: Fire and Emergency services managers must continue to expand the resources allocated to prevention and education activities, the goals of which are reducing injures for fire and other risks.

Training and Education: Fire and Emergency services managers must increase their professional standing in order to be on an equal footing with their peers in other disciplines. This professionalism should be firmly grounded in an integrated system of nationally recognized and/or certified educational training.

Strategic Partnerships: The fire service must reach out to others to expand the circle of support to assure reaching the goals of public fire protection and other emergency and prevention activities (p.27).

Arguably fire prevention is the most important activity carried out by the Fire Service today. These quotes support this concept and go beyond by telling us how to promote our efforts. The need to be on “equal footing with our peers in other disciplines” and “reaching out to others to expand the circle of support” when taken in relation to education, implies we must recognize

that partnerships with our peers in education must be pursued. Partnerships are based on mutual acknowledgement of goals and capabilities of each party. This means we must recognize, communicate and support the goals of those we wish to partner and to influence in the education of the community in life safety issues. In reference to this topic those in the education of young people.

Independence, Missouri is the fourth largest City in Missouri with a population of 117,000 and 78 square miles of geographical area within the city limits. Correspondingly the Independence Fire Department is the fourth largest in the state with 156 line personnel, 8 individuals assigned to the fire marshal's office, three in support services, one in training, two in administration and four in clerical positions. In 2001 as new to the department and the Assistant Chief in Administration, with a background in education and public fire education program development, the responsibility for upgrading the Department's public education efforts was added to my assignments. Public Fire Education was moved from the fire prevention bureau and placed within my span of control. In the past there had been several strong programs developed and implemented through the Prevention Bureau however, reorganizations, retirements and resignations had discontinued almost all public fire education efforts. The Prevention Bureau's current efforts were focused almost exclusively on code enforcement and plan review. A review of the current fire education activities determined that there was no educational program in place beyond that of fire station tours and when requested, school visitation to preschools and lower elementary grades. These activities consisted of apparatus and equipment demonstrations and the occasional showing of a video. No organized lesson plans were used, no target behaviors were addressed and no evaluation process was available, although statistics were kept on the number of individuals to which these presentations were shown. An additional challenge revolved

around limited acknowledged resources, the public education budget consisted of two hundred dollars and one individual in the Prevention Bureau was assigned half-time to education.

Three areas were identified and pursued to renew public education efforts. Incident records and referrals indicated that there was a significant juvenile fire setter problem in the community and training for individuals within the department is being pursued in the USFA Juvenile Fire Setters intervention program. Networking provided invitations into the preschools/kindergartens and the sixth grade age group. The nationally recognized program Sesame Street Fire Safety Station program was introduced and began to be used to target the younger age group. However no detailed national curriculum could be found for use in the sixth grade group. To meet the offer of inclusion in the sixth grade a curriculum needed to be developed.

The Executive Fire Officer Program requires that the research project meet one of the four operational goals of the United States Fire Administration. This project directly relates to the first: Reduce the loss of life from fire in the age groups 14 years and below. To the community of Independence, that has the driving motto: “Is it good for the children?” the obvious value to a successful program aimed at sixth graders is significant. To the Independence Fire Department this project, if successful, along with the Juvenile Fire Setter intervention program and the implementation of the Sesame Street program brings us back into alignment with what is recognized in the fire service as a full service fire department. More to the point it begins to provide for the life safety of our community now and in the future.

The Executive Fire Officer Program also requires that the project show relevance to the most recent course the researcher attended. Executive Leadership (National Fire Academy, 2000) discusses the need for the Fire Executive to bring into balance the various aspects of their

lives. For me community involvement was lacking. This role had always been defined for me as my involvement in the education of our young: as a life safety educator, role model in career opportunities and in general volunteering to make the education of young people better rounded. In pursuing career opportunities and establishing myself in a new community and with new professional responsibilities I had lost focus on this important part of my life. This project gave me the opportunity to bring that back into focus and balance my life.

LITERATURE REVIEW

The purpose of this literature review was to provide background for this researcher to recognize the various trends and issues influencing the main stakeholders in prevention education in the public school system in Missouri. Additionally the sources for standards in education, industry and the fire service that would provide the information as to the content, format for and evaluation of a curriculum was sought. The literature review also provided the basis for the development of the research questions and methods.

Kazman (2000) begins her book with the phrase “What is measured and reported gets attention!” and indicates this is the trend in industry and government. Assessment for the purpose of credentialing or recognition is a way of measurement that is being used to report those people or institutions that meet a determined standard of quality (Strickland, 1995; Missouri State Government, 2002). Identifying that standard of quality has become a trend obvious in education, industry and the fire service (Olson, 2001; Kazman; 2000; Strickland, 1995).

The Missouri Department of Elementary and Secondary Education (DESE) provides the guidelines and standards that are the basis for all public education in the state of Missouri. These guidelines and standards were developed under the umbrella of the Outstanding Schools

Act of 1993. Through this act, master teachers, parents and policy-makers from around the state met to create Missouri academic standards. These standards are known as the Show-Me-State Standards and are broken down into Performance and Knowledge areas, which contain goals and numerous standards that are to be used as a blueprint for local school districts to develop curriculum.

DESE also defines accreditation standards for teachers and teaching institutions. No programs exist for the certification of teachers without first meeting the standards outlined by DESE. DESE identifies planning of classroom instruction as a standard for teacher credentialing and the teaching of classroom planning as part of the accreditation process for an institution to becoming accredited and provide degrees and certifications for education and teaching (DESE, 2002).

President George W. Bush has presented an educational plan that was approved by congress that gives more freedom to states and school districts on how federal dollars are spent with the caveat that student achievement, teacher quality and reduction in the distance between economic groups and white and minority students be monitored and reported. Test scores would affect how much federal money is available and how it can be spent (“Education Bill” 2001; Missouri State Government, 2002). In line with this federal plan Missouri Governor Holden (“Holden Proposal”, 2001) unveiled a plan to tie funding to the submission of strategic plans to improve teacher quality, raise test scores and accountability.

The publication of manuals such as Standards for Educational and Psychological Testing (American Educational Research Association, American Psychological Association & National Council on Measurement in Education, 1999) indicated that more emphasis is being put on the

identification, development and recognition of standards for assessment. This trend appears to have its roots in issues regarding fairness and responsibility in testing. Standards for all types of test development, application, testing environments, diversity issues in testing are addressed in this publication.

Along with this, literature in education, industry and government are noting the importance of assessing individuals prior to the beginning of a program of learning or start of job (Diamond, 1998; Gronlund, 1993; Johnson, 1995; McMillan 1997; Angelo & Cross 1993; Carter & Rausch, 1993).

In conjunction with all trends identified, there appears to be an underlying trend in all the literature reviewed applying to all forms of assessment. This trend is toward the establishment of identified outcome(s) for which the assessment is being conducted (Johnson, 1995; Gronlund, 1993; McMillan, 1997; Kazman, 2000; Diamond, 1998; American Educational Research Association, 1999; Olson, 2002; Angelo & Cross, 1993; Carter & Rausch, 1993).

This appears to be what President Bush (“Educational Bill”, 2001) and Governor Holden (“Holden Proposal”, 2001) are attempting to place to the forefront in education by tying budget into strategic management and an annual end result testing form of performance measurement.

Leadership in Public Fire Education: The Year 2000 and Beyond (United States Fire Administration, 1993) made the following points: that while fire educators know fire safety education, education association and state curriculum developers may know the best way to deliver the material; messages used by local fire service agencies to educate the public should be consistent between those that the public is hearing at a National level while still addressing the problems relative to that community and; it also noted that health safety issues have gained importance. The Fire Safety Educator’s Handbook (1983) supports the above and discusses how

life safety problems can be identified in the community through reports and other methods and the need to make all messages concise, positive, relevant and aimed at changing someone's attitude and behavior.

In summary in order to gain funding the public schools in Missouri must meet the Goals and Standards adopted by DESE as the Show-Me State Educational Standards. Additionally the various schools must be able to prove through testing, with standards applied to these as well, that these standards are being achieved. Also because accreditation of teaching institutions and teachers is the standard established by DESE (2002), the specific requirements that must be met to become accredited and certified are significant to those institutions and individuals that the fire service is trying to influence in initiatives regarding prevention education. A curriculum designed for implementation into this environment, should therefore reflect and support those same standards. Additionally, the curriculum content should target those life safety messages relevant to local fire/life safety problems but that will be reinforced at the national level and through the state curriculum.

PROCEDURES

Definition of Terms

DESE: Missouri Department of Elementary and Secondary Education, which is the agency in the state of Missouri responsible for establishing academic, accreditation and certification standards for elementary and secondary schools and the colleges and university that train and educate teachers.

Descriptive, Historical, External Critique Research Design Methodology

A descriptive, historical, external critique, research design was employed to conduct a study to answer the questions:

1. What goals and standards are identified in the Missouri Department of Elementary and Secondary Education that would be applicable to life safety curriculum at the sixth grade level?
2. What current educational theories and practices are in use for sixth graders today?
3. What specific elements are necessary and should be included in a program that focuses on fire safety issues that involve both home and other environments?

All sources were limited to those showing origination dates within ten years to obtain current information. The only exception was the Firesafety Educator's Handbook which, though it was originally printed in 1983, is still a significant resource and reference for today's fire safety educators. Key words searched on the Internet were educational theories, teaching, critical thinking, education, American Red Cross, fire safety education and variations there of. External critique was the identification of the literature and web cites as those accepted in the field of teaching as appropriate to teachers by their peers. All Web cites were those developed or identified by teachers for teachers or by educational institutions or foundations for use by teachers to promote effective learning in the classroom. Mission statements, site authors and supporting institutions or foundations were reviewed to conform to this standard prior to inclusion in the findings.

Instrumental as experts in the field to determining the appropriateness for inclusion of materials in this study were Drs. Widener and Taylor. Dr. Widener, at the time of this writing is acting Chair of the Department of Education at Columbia College, Missouri. Additionally she coordinates all field in-service training for student teacher and serves a liaison to all educational facilities to which these students must complete the in-service requirements. As such she is responsible for coordinating and evaluating that these students are in compliance and performing

all teacher certification requirements to the standards of Missouri Department of Elementary and Secondary and Education. Her curriculum vitae can be found as item one in Appendix D. Dr. Ron Taylor is full time chair of the Department of Education at Columbia College, Columbia Missouri. He was responsible for establishing and complying with current standards for meeting educational and training criteria for accreditation of the Masters of Arts in Teaching program at Columbia College. His curriculum vita can be found in Appendix D, Item 2. The use of the guidelines, text books, web sites, teaching methods used by Drs Widener and Taylor to train teacher and meet state mandates for certification of teachers and the training of teachers in curriculum was used as an added filter to evaluate materials used in this portion of the research project.

Action Research Methodology

The answers to the research questions will be used to develop a curriculum using the Hunter model and comprised of ten educational units conforming to current Missouri state goals, standards and practices in format, content, classroom techniques and assessment. The Hunter model was employed based on a recommendation by Dr. Widener as the curriculum format currently most familiar in the public school setting. The product of the action research portion of this project was evaluated on several levels. As described below the curriculum content and assessment methods were evaluated as being appropriately selected by correlating them to Anderson and Krathwohl's Taxonomy of Knowledge (recommendation by Dr. Taylor). A pretest/ posttest was administered to evaluate the effectiveness of the curriculum.

Evaluative Methodology

A one-group, causal-comparative research design was used in this portion of this research project to test the null hypothesis: There will be no difference between the pretest and post-test scores of sixth grade students taught using the developed ten unit life safety curriculum.

Materials

Materials will consist of the curriculum developed as part of the action portion of this research project. Eight of the ten units developed were presented. The pretest and posttest were identical and contained ten separate items, consisting of both student created response items and student selected response items with total possible being 25 points. In an attempt to insure that the curriculum covered what the test evaluated at equivalent levels of learning/instruction, behavioral objects, classroom teaching/ assessment activities and test questions were correlated to Anderson and Krathwohl's Taxonomy of Knowledge. Sample pretest/posttest and correlation data can be found in Appendix B item one.

Participants

Participants were a convenience sample of students at a sixth grade middle school located in Independence, Missouri. These students were part of an after school enrichment program. The program offered a variety of classes meeting once a week for up to ten weeks. Participation was voluntary and each student wanting to participate selected a class to attend for the full duration of the program. Class attendance was not mandatory. No prerequisites were required for the class. Any students requesting to participate were allowed to do so. Twelve students participated in the class with ten completing both the pretest and posttest. Subject make-up was six male and six female and included one physically challenged and one identified by school administration as a "significantly" learning disabled student. Completing the pretest and

posttest were five males and five females and both students identified as having special challenges.

Method

The number of classes and class duration was designated through school administration and due to scheduling conflicts with other school activities was reduced to eight class sessions. Therefore unit eight and unit nine were omitted from the curriculum. Instruction was given utilizing, and to the extent possible in a “real world” environment adhering to, the lesson plans as developed. Since the curriculum was developed to be used by fire service professionals and not educational professional, instructors were those fire service personnel that had previously show an interest in working with educating the public in life safety issues and were selected for their availability. Experience and training ranged significantly. However all individuals selected to instruct in the program had previous experience teaching the subject matter that their assigned lesson plan presented. The lead instructor was the part-time public fire education from the Fire Prevention Bureau. He was a scout leader and had instructed boy scouts for seventeen years in various merit badges related to safety. A line officer and certified fire service instructor taught fire extinguisher use. This individual had been teaching this topic to all ages in the community for two years. A certified CPR instructor and paramedic taught rescue breathing and first aide. For their unit(s) each instructor was given direction on the material to be covered, the format and activities to be used in covering the material and handouts/workbook pages as applicable. Because this was a “real life” environment the instructors were given permission to adapt the curriculum as circumstances dictated to make it appropriate to the students. Examples of this adaptation were altering the steps of the abdominal thrust administered to a choking victim for a wheelchair bound student, limiting the outside practice of extinguisher usage due to a thunder

and lighting storm and the instructors answering student's questions using their individual experiences. Instructional techniques were monitored to insure that information identified in the behavioral objectives was presented using the formats identified in the lesson plans that were designed based on the results of the research questions. Pre-test was given at the first class. The posttest was administered at the final class. No time limit was set for completion of the tests. Tests were graded and results documented by the lead instructor, with this researcher providing review.

Analysis

Analysis of the data from the pretest/posttest data was performed using the t-test for related samples/multiple measures, with alpha being set apriori at $p < .05$. Additional calculations were done to account for effect size.

Assumptions and Limitations

Two assumptions were made in the course of this research. One was that current accreditation and teaching certification standards did indeed reflect state-of-the-art and "best practices" for classroom instruction. The second was that since I could not be available to monitor strict compliance with the lesson plans, that the instructors completed the classes as developed and only deviated as previously outlined under procedure.

Several factors limited the impact of this research project. The scope of the study was limited to those teaching methods and standards for lesson plan development currently in use by Columbia College in Columbia Missouri. However the standards used by Columbia College to prepare its students to teach and be certified to teach in the classroom is a fully accredited program with students participating and accepted in school districts throughout the state of Missouri including the Kansas City Metro area to which the City of Independence has school

within its city limits. This limitation should therefore not have negatively impacted the product of the research. An additional limiting factor was time. National Fire Academy established a six-month time frame for completion and submission of the entire project thus limiting the scope and follow-up evaluative process on the product to that which could be accomplished with the allotted time frame. Within this time frame, the end of the Executive Leadership class and the six month deadline, no pilot program could be set up that included a control group. Therefore an evaluation design had to be implemented instead of the more rigorous one possible had a control group been available in the time frame.

RESULTS

The results of this study produced a ten educational unit life safety curriculum for sixth graders. (See Appendix A).

Research Questions

The results of the descriptive, historical, external critique portion of this research provided the answers to the research questions.

Research Questions One: What goals and standards are identified in the Missouri Department of Elementary and Secondary Education that would be applicable to life safety curriculum at the sixth grade level? DESE (2002) outlines the goals and knowledge levels for each age/developmental group. For the to sixth grade level, fifteen standards were identified. Fourteen were under Performance and one under Knowledge. Eight of the fourteen standards that related to the Performance standards in the Show-Me Standards dealt with some aspect of problem identification of solving. Others dealt with roles in society, coordinated effort and working with others to complete tasks, identifying and applying practices that preserve and

enhance the safety and health of self and others and learning about job opportunities. A complete detailed list of these can be found in Appendix C, Item 1.

Research Question Two: What current educational theories and practices are in use for sixth graders today? Educational theories and practices appear to be consistent across developmental and age levels with only the degree of complexity of the enacted curriculum being more complex based on the developmental or if appropriate the age level of the student. Therefore results indicated broad based theories can be used for sixth graders. Specifically in use in today's classrooms are the practices based on the following theories.

A relatively new field of research in the area of learning is being done utilizing neuroscience and is used to support brain-based learning theories. By studying the biological/physiological processes that occur during development and learning using Positron Emission Tomography and the EEG, a change in the physical structures of the brain has been noted. Age/maturation process, emotional and physical stimuli and mental concentration and effort alter the physical structure of the brain. This research has translated into theories and practices that are becoming accepted in today's classrooms and include:

1. The brain requires certain things to optimize its' functioning. Nutrients in the form of certain chemicals, water, oxygen, etc. are needed to maintain the brain in its own best environment. This translates to the individual must eat a diet balanced with certain "brain" foods, have enough water to not become dehydrated and have a certain temperature, humidity and oxygen level to sustain and promote its survival and growth.
2. Environmental enrichment is essential to allow for stimulation of impulses and chemical changes in the brain that promote the components of synapses to occur and develop. Enrichment must take a multitude of forms in order to trigger as many parts of the brain as possible. Music

art, physical movement, thinking and problem solving should be incorporated into learning environments.

3. Maximum stimulation of the brain occurs with new, unique or emotionally generating experiences. However repeated stimuli have the effect of fine tuning the synapses and promoting memory building or learning. Therefore new concepts should be introduced to excite the synapse, but repetition of important concepts is needed to fine tune the synapses into retaining the information. Repetition does not mean replication; the repeating of concepts should take as many forms as possible to promote several pathways to the knowledge. Repetition also provides patterns as the bases for new learning.

4. Attention—focused, peripheral or inattention (sleeping, resting or just “not paying attention”) occurs on many levels depending on the presence of external and internal (usually chemical or perhaps genetic) factors. All three forms of attention are necessary for learning to be successful. All three types should be acknowledged and built into the planned curriculum or compensated for in the enacted curriculum. Inattention and peripheral time are used for processing time. Activities that promote processing time include sleeping, journal writing,, discussion, some small group activities, etc. Processing activities need to be geared to the nature, complexity and relative newness of the material being processed.

5. All individuals exist with unique patterns. These patterns are made up of genetic or innate mapping, environmental or learned mapping and developmental (how the two connect to create new) patterns. The enacted curriculum must take this uniqueness into consideration for the experienced curriculum to be successful for the individual. (Caine & Caine, 1997; Jensen, 1998; On Purpose Associates, 1998).

Brain based learning ties into and supports many other theories of learning. The testing in brain based research using the EEG (though still somewhat inconclusive) show an increase in electrical activity at various level and locations in the brain and traced to certain growth spurts in the brain and human growth. This corresponds to Piaget's theory which, in contrast, is based on behavioral observations. Piaget theory centers on child development (directed at characteristic age spans) that change in cognitive structure through the processes he identified as adaptation, assimilation and accommodation. Characteristics of the age spans (that might be different by individual) were labeled sensor motor, preoperational, concrete operational and formal operations. The basis for instruction for curriculums grounded in Piaget's theory is developmentally appropriate teaching methodologies, with information presented in a manner consistent with sensor motor, preoperational, concrete operational or formal operations level of development whichever applies to the individual (Cruickshank, et. al., 1999; Hass & Parkay, 1993; Kearsley, 2001). Sixth graders fall into the preoperational to concrete operational levels. This translates into a curriculum that involves presenting information to six grade students in a method that is directly related to their experiences and environment.

Gardner's theory of multiple intelligences, that each individual has distinct forms of intelligences and in different amounts, is another example. It is his contention that learning and teaching should focus on utilizing the types of intelligences that each person possess to guide the acquisition of knowledge. He also suggests that the types of intelligences that an individual possesses are related to their culture (Cruickshank, Bainer & Metcalf ,1999; On Purpose Associates,1998).

Cruickshank, Bainer & Metcalf (1999) and On Purpose Associates (1998) describe the theory of learning style differences as being important to effective instruction. Noting that direct

experiences, observation, immediately using new information or thinking about (reflecting) on new information may be most the effective method for a person to retain and be able to use the information depending on the unique way that person perceives and processes information in their environment. This also shows a significant resemblance to the brain-based learning applications.

Bruner also reflects many of the same ideas put forth in the brain based learning theory. Bruner (Hass & Parkay, 1993; Kearsley, 2001) is identified with the inquiry-based curriculum which puts forth that the methods used in specific scientific/academic inquiry should be taught to children and that a spiral approach of learning materials in ever more complex levels is appropriate at all levels.

The behaviorist theories of learning and instruction rely on the work of B. F. Skinner. This theory is based on the concept that an observable change in behavior (learning) comes about through external stimuli in the environment. Teaching methodologies consist of operational (already in the environment), operant (reinforcement provided in the form of consequences) and social (observable in the individual's environment) conditioning. By controlling the stimuli in the environment the instructor can bring about learning (observable changes in behavior). (Kearsley, 2001; Hass & Parkay, 1993; Cruickshank, et. al. 1999).

Theories of learning take many forms and are based on a wide range of disciplines. Brain based learning theory that derives itself from the latest scientific research using the neurophysiology of the brain, when compared to theories that are based on observation, appears to incorporate most of the practices advocated by those latter theorists. Therefore a planned curriculum that reflects current theories and practices should incorporate among many other things: planned control of the environment to provide both for the body's needs and stimulation

for the brain. The stimulation should be controlled and provide for multiple types of intelligences and learning styles as well as be designed to achieve the desired outcome, information should be introduced to the student in manner that allows for processing, practice and to be used to build new knowledge levels.

Research Question Three: What specific elements are necessary and should be included in a program that focuses on life safety issues that involve both home and other environments?

Problem solving and critical thinking, along with action oriented, clear, positive and relevant information should be included in a program that focuses on life safety issues (DESE, 2002; Adams, 1983). Specifically the elements should focus on reducing major fire causes, escape and detection along with basic first aid practices that address critical life saving skills. Early detection devices, escape planning, getting assistance, preventing fires, airway management and control of bleeding are listed as key behaviors by medical authorities and the leaders in the fire service (American Red Cross, 2002 ; Adams, 1983; FEMA/USFA, 1998; FEMA/USFA, 1993).

Evaluative Research Results

There was a statistically significant difference ($t(10) = -7.00$; $p < .0001$) in the pretest to the posttest scores. Therefore the null hypothesis of “There will be no difference between the pretest and post-test scores of sixth grade students taught using the identified 10 unit life safety curriculum” was rejected.

Further calculations indicated that the instructional intervention effect was strong, accounting for .85 of the variance between the pretest and posttest results. Conclusion: There was a statistically significant difference (positive) between the pretest and posttest scores of sixth

grade students tested after being taught the life safety curriculum. See Appendix C, Table 1 for data and results.

DISCUSSION

The results to question one indicated that there were a substantial number of standards identified by DESE, that when addressed in a curriculum would provide the student with the ability to address risk factors in their environment. Currently Missouri Standards of Education are recognizing the need for problem solving and critical thinking as important educational goals. Therefore teaching methodologies based on or incorporating aspects of theories that promote characteristics, skills, and knowledge identified, as being part of the critical thinking and problem-solving process would be successful in reaching the goals set forth by Missouri. This partners well with the need of the fire service to promote those knowledge and performance levels that will support life safety behaviors in these same students. This is an important delivery strategy providing later reinforcement by classroom teachers of key learning behaviors long after the fire service professional has completed the instruction and will allow the classroom teacher to build on the material presented in other areas of emphasis. The curriculum developed as the result of the action portion of this research project utilizes activities supported in current theories of learning to promote both problem solving and memory retention of key information necessary to the critical thinking and problem aspects of dealing with various life safety issues in the student's various living environments. Leadership in Public Fire Safety Education: The Year 2000 and Beyond states that "to decrease fragmentation, all content should be clearly related to the core learning the curriculum is designed to address (USFA, 2000, page vii). Though DESE (2202) takes pains in its introductory remarks to state that no specific curriculum is designed to

meet those goals and standards it clearly notes that these are what educators and schools will be held accountable for achieving. By specifically addressing in the lesson plans and curriculum content both the critical life safety messages with the problem solving and critical thinking emphasis required by DESE a partnership is formed between local schools and the Independence Fire Department in reaching the goals and standards established by the state and supporting much needed life safety education. Through this effort, fragmentation of messages and learning behaviors will be decreased at the same time providing reinforcement and building processes that also conforms to several behavioral theorists that support multiple ways of presenting information, repetition and spiral learning. This conclusion can be supported by the current teaching text such as *The Act of Teaching* (Cruickshank, et. al., 1999), *Curriculum Planning A New Approach* (Hass & Parkay, 1993) and Web sites supported by teachers and educational specialist such as *Theory into Practice* (Kearsley, 2002) and *Funderstanding* (On Purpose Associates, 2002).

The curriculum designed as the action portion of this research project used the Hunter model which supported the various components of learning theories identified in the results of question two and will be acceptable to school officials in meeting their state required goals and standards. The Hunter model was adaptable for inclusion of many different learning theories to classroom application. It can also be seen to apply to establishing a physical as well as mental learning environment that will allow the student to be prepared to learn. The educational units designed can be seen to contain such components as nourishment, music, and concrete relationship questions that are noted by the various theorist to a apply to brain based learning, Piaget's preoperational and theory, Brunner's theory of and well aspects of Skinner's behaviorist theory as it relates to social (role modeling), environment (specific activities) and reinforcement

(certificates and pizza!). John –Steiner (1997) notes in the introduction to her book that common powerful themes were discovered in the words of the one hundred very different creative individuals of her study. The one hundred creative individuals on whose words she basis her results are from different disciplines. This statement appears to support Gardner’s theory of multiple intelligences and that curriculum should address all the different intelligences (Kearsley 2001; On Purpose Associates, 1998; Hass & Parkay, 1993). The curriculum therefore included in its educational units activities that exposed the students to movement, visual, auditory and spatial activities in an effort to teach the knowledge and performance objectives.

The Firesafety Educator’s Handbook (Adams, 1983) and the Red Cross web site (2002) listed in particular the area of babysitter safety as relevant to the adolescent age group. Babysitter safety included all the safety messages in both fire and health and was used in the curriculum to bring together all the elements of problem solving, critical thinking and safety information in a concrete manner that allowed for the application of Piaget’s theory on concrete operation and Bruner’s spiral learning (Cruickshank, et. al.,1999; Hass & Parkay, 1993; Kearsley, 2001).

The results of research question three provided the content, when partnered with the critical thinking and problem solving standards of DESE, of the curriculum. By using the central theme of problem solving in critical situations with basic life saving themes of planning your escape with all its particulars, basic first aide and fire prevention concepts the student was guided to not only respond in a rote fashion when a situation arises that might affect their or another safety, but to evaluate and pursue the best course of action in handling the various factors involved. The student and community become better served with the student’s ability to deal with critical situations in this manner.

The results of the evaluative portion of this research project support that the curriculum designed was effective in increasing the subject's ability to answer the test questions more effectively after being exposed to the curriculum content. Across the board all students improved. Pretest ranges were high nineteen to low of four these increased on the posttest to high of twenty-four to low of seven. The mean score increased from the pretest of 12.1 to the posttest mean of 19.1. The median score on the pretest was 13 which changed to 21 on the posttest, indicating that not only did the scores of all students improve but that more students scored higher on the posttest than on the pretest. The proportion of variance accounted for by the exposure to the curriculum was 85.00% indicating that the curriculum could statistically account for 85.00% of the improvement in test scores. Though not assured, it might be possible that had the entire curriculum (all ten units) been presented that these results might have reflected an even stronger degree of significance.

RECOMMENDATIONS

Recommendations include additional refining of the curriculum based on an item analysis of the test results for weak response areas that might be related to the curriculum, addition of a control group in the next presentation and evaluative step and, should this second presentation and evaluation support the conclusion of this research project that the effort be made to incorporate the entire curriculum into the mainstream 6th grade classrooms of the City of Independence.

REFERENCES

- Adams. R. C. (Ed). (1983). *Firesafety educators handbook a comprehensive guide to planning, designing and implementing firesafety programs*. Quincy: NFPA.
- American Educational Research Association, American Psychological Association & National Council on Measurement in Education (1999). Standards for educational and psychological testing. Washington, D.C.: American Educational Research Association.
- American Red Cross. *Making skills for young people*. Retrieved on April 29, 2002 from <http://www.redcross.org/pubs/#aid>.
- Angelo, A. A. & Cross K. P. (1993). *Classroom assessment techniques a handbook for college teachers* (2nd ed). San Francisco: Jossey-Bass.
- Carter H. R. & Rausch E., 1993. *Management in the fire service* (2nd ed.) (pp. 339-369). Quincy, MA: National Fire Protection Association.
- Caine, R. N. & Caine, G. (1991). *Making connections teaching and the human brain*. Alexandria: Association for Supervision and Curriculum Development.
- Cruikshank, D. R., Bainer, D. L. & Metcalf K. K. (1999). *The act of teaching*. Boston: McGraw Hill.
- Diamond, R. M. (1998). *Designing and assessing courses and curricula a practical guide* (rev). San Francisco: Jossey-Bass.
- Education bill encourages more testing. (2001, December 19). *Columbia Daily Tribune*, p. A1.
- Federal Emergency Management and United States Fire Administration (1993). *Leadership in public fire safety education: the year 2000 and beyond finding of a national symposium* (Publication No. 720-993/80214). Washington. DC: U.S. Government Printing Office.

- Federal Emergency Management and United States Fire Administration (1998). *Strategy for marketing your fire department today and beyond* (Publication No. 622-172/93371). Washington, DC: U.S. Government Printing Office.
- Gronlund, N. E. (1993). *How to make achievement tests and assessments* (5th ed.). Needham Heights, MA: Allyn and Bacon.
- Hass, G. & Parkay, F. W. (1993). *Curriculum planning a new approach*. 6th ed. Boston: Allyn and Bacon.
- Holden announces education proposal. (2001, December 19). *Columbia Daily Tribune*, p. 10A.
- Jensen, E. (1998). *Teaching with the brain in mind*. Alexandria: Association for Supervision and Curriculum Development.
- Jensen, E. (1998, November). How Julie's brain works. *Educational Leadership*, pp. 41-45.
- John-Steiner, V. (1997). *Notebooks of the mind explorations of thinking*. New York: Oxford Press.
- Johnson, W. S (1995). Personnel administration. In Bachtler & Brennan (Eds.), *The fire chief's handbook* (pp. 245-260). Saddle Brook, NJ: Pennwell.
- Kazman, J. G. (2000). *Measurement for results implementing performance measure in local government participant's handbook*. Washington D. C.: International City Management Association.
- Kearsley, G. (2001). *Constructionist theory. Theory into practice*. Retrieved April 29, 2002 from <http://tip.psychology.org/bruner.html>.
- Kearsley, G. (2001). *Multiple intelligences. Theory into practice*. Retrieved April 29, 2002 from <http://tip.psychology.org/gardner.html>.

- Kearsley, G. (2001). *Operant conditioning. Theory into practice*. Retrieved April 29, 2002 from <http://tip.psychology.org/skinner.html>.
- Kearsley, G. (2001). *Triachchic theory (R. Sternberg). Theory into practice*. Retrieved April 29, 2002 from <http://tip.psychology.org/stern.html>.
- McMillan, J. H. (1997). *Classroom assessment principles and practice for effective instruction*. Needham Heights, MA: Allyn and Bacon.
- Missouri Department of Elementary and Secondary Education. retrieved April 15, 2002 at <http://www.dese.state.mo.us/>.
- Missouri State Government Education (2002). Holden accountability plan to improve Missouri's public schools. Retrieved February 25, 2002, <http://www.gov.state.mo.us/education/education.htm>.
- National Fire Academy. (2000). *Executive Leadership*. Emmetsburg, MD: Author.
- Olson, L (2002). Finding the right mix. *Education week on the web* (February 20, 2002). Retrieved February 25, 2002, from <http://www.edweek.org/sreport/qc01/articles/qc01story.cfm?slug=17intro.h20>.
- On Purpose Associates, (1998). *Brain-based learning*. Funderstanding. Retrieved April 29, 2002 from http://www.funderstanind.com/brain_based_learning.cfm.
- On Purpose Associates (1998). *Multiple intelligences*. Funderstanding. Retrieved April 29, 2002 from http://www.funderstanind.com/multiple_intellegence.cfm.
- On Purpose Associates (1998). *Learning styles*. Funderstanding. Retrieved April 29, 2002 from http://www.funderstanind.com/learning_styles.cfm.
- Strickland, R. J. (1995). The national professional qualification system. In Bachtler & Brennan (Eds.). *The fire chief's handbook* (pp. 311-324). Saddle Brook, NJ: Pennwell.

Appendix A

Unit: Risk Assessment and Reduction
“I Can Be a Hero”

Grade Level: Sixth

Content Area Risk Assessment and Reduction

Unit Goal: To provide the student with information that can be placed into a problem-solving model that will allow them to survive and/or help another to survive a life-threatening situation.

Show-Me Standards:

Performance Standards:	Students will demonstrate within and integrated across all content areas the ability to 1.10 apply acquired information, ideas and skills to different contexts as students, workers, citizens and consumers. 3.1 identify problems and define their scope and elements. 3.2 develop and apply strategies based on ways others have prevented or solved problems 3.3 develop and apply strategies based on one's own experience in preventing or solving problems 3.4 evaluate the processes used in recognizing and solving problems 3.5 reason inductively from a set of specific facts and deductively from general premises 3.6 examine problems and proposed solution from multiple perspectives. 3.7 evaluate the extent to which a strategy addresses the problem, 4.1 explain reasoning and identify information used to support decisions 4.3 analyze the duties and responsibilities of individuals in societies. 4.6 identify tasks that require a coordinated effort and work with others to complete those tasks 4.7 identify and apply practices that preserve and enhance the safety and health of self and others 4.8 explore, prepare for and seek educational and job opportunities
------------------------	--

Knowledge Standards:	In Health and Physical Education, students in Missouri public schools will acquire a solid foundation, which includes knowledge of: HP7 response to emergency situations.
----------------------	--

Daily Lesson Plan Day 1 –Introduction and What do we do in the Fire Service.

Frameworks: None

Daily Objectives:

At the completion of this unit the student will be able to:

1. List three activities that members of the fire department do to prevent people from having a fire. (Anderson & Krathwohl, A1)
2. Be able to list five types of emergencies that members of the fire department may be called on to handle in order to stop the emergency from getting worse and help the people involved. (Anderson & Krathwohl, A1)
3. List three areas of training that must be completed to be a firefighter. (Anderson & Krathwohl, A1)

Assessment: Pretest and Post-test

Materials, Media, Literature:

Literature:

Career Flyer for the Independence Fire Department

Materials:

Juice boxes
Radio
Fire Fighters
Fire Inspectors
Fire Truck
Pretest
Workbook
Overheads
Name Tags

Media

CD player
Overhead projector

Specific Steps of Lesson Plan

3:25-3:30 Fire Department personnel will hand out juice boxes, visit with students, music will be playing with fire themes.

- 3:30-3:35 (Anticipatory Set)
Welcome all students to the Life Safety After School Program. Introduce everyone (fire service) and make sure everyone (students) knows each other.
- 3:35-3:40 (Stating Objectives)
Review objectives for the entire class. Discuss activities for each behavioral objectives. Note we will be covering the first several while we are together today by allow some fire department personnel to tell about their jobs. Use overhead and discussion Promise. Have student sign if they agree.
- 3:40-4:00 Tell the students that in order to cover only the things they do not already know we will be giving a pretest. Pass out and administer pre-test.
- 4:00-4:15 (Provide Input)
Introduce fire fighters and inspectors. Have each one tell about the their job, special training, job benefits etc. NOTE: review objectives with personnel prior to class and make sure that personnel cover them. If time allows, students can ask questions.
- 4:15 – 4:20 (Closure)
Remind students of the activities they are going to be doing and tell them we will be back next week.

Alternative for the day:

Do a mock reporter-on-the-street interview of one of the fire fighters and ask all the questions that will address the objectives as well as some fun add-ons.

Remediation:

None

Enrichment:

Have students develop specific questions they would like fire fighters to answer about their jobs. Provide the student with the name of a fire fighter to interview more in depth. Set up a ride-a-long visit to the department.

:

Class 2: You do what you know -- Creativity and Problem Solving.

Daily Objectives:

At the completion of this class the student will:

1. Be able to list the five elements of creativity
2. Be able to apply the rules of brainstorming
3. Given the eight steps of problem solving be able to use them to survive a fire or other emergency situation.

Assessment will be done by instructor observation through out the program on activities that involve creativity, brainstorming and problem solving.

Materials, Media, Literature:

Literature:

None

Materials:

Juice boxes
Radio
Workbook
Overheads
Name Tags
Flip Chart
Markers

Media

CD player
Overhead projector

Specific Steps of Lesson Plan

- | | |
|-----------|--|
| 3:25-3:30 | Music and Juice. Talk to students. Name tags. |
| 3:30-3:35 | (Anticipatory Set)
Presenter will identify themselves, their background and why they are visiting the classroom. Visual aid on objectives may be used. Presenter will discuss that fires happen every day. Presenter will use discussion to get the students to relate to the possibility of fire and burns happening to them personally. Pass out workbooks. |
| 3:35-3:40 | (Stating Objectives)
Use overhead to review today's objectives. |

- 3:40-3:50 (Provide Input):
Review the concept of brainstorming by asking students: Do they know what brainstorming is, can they provide any directions for brainstorming. Write on overhead or flipchart. If necessary use overhead of “Rules of Brainstorming”. As a large group activity do creativity exercise.
Exercise (adapted for National Fire Academy’s Leadership Series module on creativity):
Tell students to write down as many round things as they can in four minutes. After the four minutes is up. Have students count the number of items on their list, how many different types of items on their list, round robin ask each student to give their most unusual item on their list and then ask others if they have this on their list. Determine what the most unique item was. Use overhead of creativity to bring out./review some components of creativity.
- 3:50-3:55 (Provide Input)
Ask students if they have ever had a problem. Ask them how they thought about solving the problem. Ask them if they think having steps to solving a problem might be helpful. Use overhead of systematic problem solving model and tell students this is the model fire fighters are taught to use when working with important decisions. Tell them for the purposes of this class we will be using the model to work through fire situations.
- 3:55 – 4:20 (Check for Comprehension)
Small or large group activity: Students will be given the worksheet or a flip chart sheet to be used to brainstorm as many different types of emergencies as they can. Discussion will then be done to select the “best” answers. Using flip chart paper with each step of the problem-solving model written on the top, post on wall with masking tape. Using the problem-solving model have students work through to successfully handle the “best” emergency from the previous activity. Note: Space is provided in the workbook as well.
- 4:20 (Closure)
Tell students we will be using some of the emergency situations they listed in future classes, so think about what they might need to know to handle the situation safely and effectively. Dismiss.

Alternative for the day:

None

Remediation:

Practice brainstorming straight or square items. Check to see if fluidity, flexibility, frequency etc improve.

Enrichment:

Have student pick an “impossible” scenario from a movie or book and use the problem solving model to try and solve, escape, etc.

Class 3: Recognizing an Emergency, when and how to call 911.

Daily Objective:

1. Given an emergency situation be able to role play calling 911 and reporting the emergency (three key pieces of information)

Assessment: Questions on post-test. Instructor observation when students are role-playing calling 911.

Materials, Media, Literature:

Literature:

None

Materials:

Juice boxes
Radio
Fire Fighter
Workbook
Overheads
Name Tags

Media

CD player
Overhead projector

Specific Steps of Lesson Plan

- | | |
|------------|---|
| 3:25-3:30 | Music and Juice. Talk to students. Nametags |
| 3:30-3:35 | (Check for comprehension)
Review highlights of previous classes. Base this on what areas seemed to need reinforcement for previous classes |
| 3:35- 3:45 | (Anticipatory Set)
Tell story about catching the burglar in my house and how the 911 call was made incorrectly and what happened. |
| 3:45-3:47 | (Stating Objectives)
Using overhead review objective. |

- 3:47 to 4:05 (Provide Input)
Based on the story told earlier, Ask the students what information would have been better to tell the 911 operator? Using the overhead review the important information to tell the 911 operator.
- 4:05-4:15 (Check for comprehension)
Using the list of emergencies that were brain stormed the previous week (Put the flip chart paper with list up on wall). Assign each student an “emergency” give a generic address and phone number. Assign students to a fire fighter or myself and have them role-play calling 911 with the fire fighter or myself being the 911 operator.
- 4:15 – 4:20 (Closure)
Using overhead review important information needed to give operator. Tell then if the fire fighters, police, etc can’t get there they can’t help. Do it right make it clear, get help!!

Alternative for the day:

If role-play is not possible have students write out in their workbook what they would tell a 911 operator.

Remediation:

Bring in tapes of 911 calls and have students try to write down the important information and repeat it back to “dispatch” a call.

Enrichment:

Set up a visit to the police/fire dispatch center.

Class 4: Survival Skills: Surviving the fire

Daily Objective:

1. Given one of the following fire scenarios be able to demonstrate the steps necessary to survive the situation.
 - a) Small kitchen fire
 - b) Fire in room waste paper (trash) can
 - c) House fire
 - d) Fire at school

Assessment: Questions on post-test. Have students turn in escape plans for review.

Framework: None

Materials, Media, Literature:

Literature:

NFPA pamphlet how to plan you escape

Materials:

Juice boxes
Radio
Workbook
Overheads
Name Tags

Media:

CD player
Overhead projector

Specific Steps of Lesson Plan

- | | |
|------------|--|
| 3:25-3:30 | Music and Juice. Talk to students. Name tags. |
| 3:30-3:35 | Review highlights of previous classes. Base this on what areas seemed to need reinforcement for previous classes |
| 3:35- 3-40 | (Anticipatory Set)
Ask the students if they have ever seen a house that has had a fire. What did it look like? What was left? Ask the students how many have made an escape plan for getting out of a house if there is a fire? (May ask if appropriate how many have practiced the plan). Have smoke detector and sound. Ask what is that sound. Explain about testing, cleaning and changing battery. |

- 3:40-3:45 (Stating Objectives)
Explain that today they will be learning about how to problem solve and apply various methods of surviving a house fire. We will be planning an escape and talking through all the steps that will be needed to actually “work the plan”.
- 3:45 to 4:00 (Provide Input)
Show video Fire Power. Give out handouts. Explain that we will be doing two activities to problem solve surviving a house fire. For the first activity divide students into groups of approximately five. Give 5 minutes for group to brainstorm all the ways they saw in the movie that they could survive the fire. After five minutes hand each group one slip of paper. “Door handle is hot, fire is on the other side. What will you do?” Door handle is hot, fire is on the other side, window is stuck, what will you do?” etc. Make up as many as you need for each group to have to think of a solution
- 4:00-4:05 (Check for comprehension)
As a large group activity review each group’s scenario and discuss good and not so good points.
- 4:05-4:15 (Check for comprehension)
On the floor plan section on the handout have students draw a rough floor plan of their house with each room and doors and window. Have them make arrow showing two ways out of each room, meeting place, where they would do to call 911 and where the smoke detectors are in their home.
- 4:15 – 4:20 (Closure)
Place overhead “GET OUT, STAY OUT” on and remind students that what they have learned and practices is very serious. Place overhead reviewing planning and steps to escaping a fire and discuss. Send the students home to discuss with family.

Alternative for the day:

If students are unable to concentrate in small groups, use large group format and discussion. Also may just have students work independently on drawing and listing escape routes for home in Fire Power and from their own home.

Remediation:

Do additional escape plans from grandparents house, friends house etc.

Enrichment:

Have student problem solve what they think they should do and why if they hear and alarm while at a hospital, the mall, a multi-story motel, etc.

Class 5 Extinguishing a Fire--when and how!

Daily Objective:

1. Given one of the following fire scenarios be able to demonstrate the steps necessary to survive the situation. (Anderson & Krathwohl, C3)
 - a) Small kitchen fire
 - b) Fire in room waste paper (trash) can.

Assessment: Questions on post-test. Check-off sheets.

Materials, Media, Literature:

Literature:

Workbook

Materials:

juice
Nametags
three cooking pans with lids
three red circles of paper to symbolize burners
fire

Media:

CD player
Overhead projector

Specific Steps of Lesson Plan

3:25-3:30 Music and Juice. Talk to students

3:30- 3:35 (Anticipatory Set)

The teacher should ask how many students have had a fire at their house. (Answers will vary and discussion should be pursued until the conclusion is reached that there are different sizes of fires. Make the point that small fires can be handled differently than large fires. Ask if they would like to learn what to do for small fires.

3:35-3:37 (Stating Objectives)

Explain that today they will be learning about how to recognize various fire situations and what to do in each case. In particular we will be talking about small fires and how they can handle these emergencies safely, as part of this learning experience they will have a chance to use a fire extinguisher on an actual controlled fire, but only after they can recite the steps correctly.

- 3:37 to 3:47 (Provide Input)
Using the overhead, discuss steps to handle kitchen fire. Call for help (review quickly what was learned in previous class about calling 911), Tell everyone in house to get out and go to meeting place, Place lid on pan if possible, once lid is on pan turn off heat. Leave pan alone and exit house going to meeting place.
- 3:47- 3:50 (Model Ideal Behavior)
Using pan pretend stove walk through the correct actions.
- 3:50-4:00 (Check for comprehension)
Have students divide into groups and assign evenly between practice areas. Each area should have a fire fighter monitoring the performance. Students should repeat practice until done correctly. Fire Fighter should record the names of each student that successfully completes the practice.
- 4:00-4:10 (Provide Input)
Using overhead review how to handle small fires using a fire extinguisher. Be sure to remind students that different extinguishers work on different types of fires and that we would be learning to use the type of fire extinguishers required in their school and home. These can be used on a variety of fires. Today we will be using the ABC fire extinguisher on a flammable liquid fire but that this type of extinguisher can be used on trash and kitchen fires as well. Ask the students where fire extinguisher should be hung (near exits and not near where fire may start or between where a fire may start and the next). Go step by step through the items on the overhead. Answer any questions as you go. When done review steps again.
- 4:10-4:15 (Model Ideal Behavior)
Demonstrate all steps in the classroom
- 3:50:4:00 (Model Ideal Behavior)
Move students outside. Demonstrate all steps in the “real situation” Have students tell you each step as you perform it.
- 4:00-4:15 (Guided Practice)
Divide students into groups and assign to a practice station. Each student should perform the entire scenario while saying each step.
- 4:15 – 4:20 (Closure)
Return students to classroom. Place overhead “GET OUT, STAY OUT” on and remind students that what they have learned and practices is very serious and should only be tried if the fire is very small and they are sure they can handle. Otherwise the rule GET OUT, STAY OUT applies.

Alternative for the day:

If bad weather prohibits igniting a practice burn pan the students should walk through it in the classroom. No agent should be used, but the pin should still be pulled (and replaced prior to carrying) and a “fire” approach be completed.

Remediation:

Make available the NFPA film on using a fire extinguisher.

Enrichment:

Ask students to find out what other types of extinguishers are available and what kind of fire each is supposed to be used to extinguish. Further enrichment can be a discussion of how the different extinguishers actually work to extinguish each type of fire.

Class 6 Emergency First Aide: When you find someone unconscious, choking, open airway, control bleeding.

Daily Objectives:

1. Demonstrate what to do for a baby choking on food (Anderson & Krathwohl, C3)
2. Demonstrate what to do for a friend choking on food (Anderson & Krathwohl, C3)
3. Demonstrate what to do if you find someone unconscious (Anderson & Krathwohl, C3)
4. Demonstrate what to do if you find someone bleeding (Anderson & Krathwohl, C3)

Assessment: Questions on post-test. Check-off sheets in stations...

Materials, Media, Literature:

Literature:

None

Materials:

Fire fighter/Instructor
Juice boxes
Radio
Resuscitation Annie
Resuscitation Baby
Workbook
Overheads
Name Tags

Media

CD player
Overhead projector

Specific Steps of Lesson Plan

- | | |
|------------|--|
| 3:00-3:10 | Music and Juice. Talk to students. Name tags. |
| 3:10-3:15 | Review highlights of previous classes. Base this on what areas seemed to need reinforcement for previous classes |
| 3:10- 3-12 | (Anticipatory Set)
Introduce guest instructor and tell the students that s/he will be teaching the class to day based on American Red Cross standards. Ask if any one has every |

encountered anyone that was hurt or sick, ask what they did. Turn the class over to the instructor saying that s/he has had a lot of experience with these situations and ask them to start out by telling a story about one of the medical emergencies that s/he has had in real life.

- 3:12-3:15 (Stating Objectives)
Instructor uses overheads to review objectives.
- 3:15 to 3:20 (Provide Input)
Using overhead instructor reviews steps of what to do if you find some one unconscious.
- 3:20 to 3:25 (Model behavior)
Instructor demonstrates the steps.
- 3:25-3:35 (Check for comprehension)
As a large group activity have students say out loud together the steps. Shake and shout, call for help, etc.
- 3:45-3:50 (Check for comprehension)
Count off by twos. Have ones be the pretend unconscious person first and twos act out the steps. Reverse the process.
- 3:50 to 4:00 Repeat sequences for other objectives
- 4:00 to 4:20 (Check for comprehension and Assessment)
Set up stations for each activity. One instructor per station. Have the students rotate through each station and demonstrate the steps. Instructors are to check of each student on completion of the activity.
- 4:20 (Closure)
Dismiss class telling students to we will practice all these activities later in the program.

Alternative for the day:

Have students use the check off sheets to work through each of the activities, then set up individual walk through of each station.

Remediation:

Additional practice will be provided later in the program.

Enrichment:

Have information available on full American Red Cross classes to provide students with information on how they can extend their knowledge of first aide.

Class 7: What Causes Fires -- Prevention Trailer

Daily Objective:

1. Name the three things that start fires and tell a way to stop those from starting fires. (Anderson & Krathwohl, B3)

Assessment: Questions on post-test. Check-off sheet.

Materials, Media, Literature:

Literature:

Home Inspection Checklist

Materials:

Juice boxes
Fire truck
Fire Fighters
Fire Inspectors
Name Tags
Fire Safety trailer
Electrical source
Overheads

Media:

Overhead projector

Specific Steps of the Lesson Plan:

- | | |
|------------|--|
| 3:25-3:30 | Music and Juice. Talk to students. Name tags. |
| 3:30-3:35 | Review highlights of previous classes. Base this on what areas seemed to need reinforcement for previous classes |
| 3:35- 3-40 | (Anticipatory Set)
The best way to save lives and property and keep people from getting hurt is to prevent the emergency from happening. Today's class is finding and removing things that can start a fire. We will be visiting the Fire Prevention Trailer, discovery hazardous situations and practicing an "escape" |
| 3:40-3:45 | (Stating Objectives)
Use overhead to review today's objectives. However we will be finding more than three things that can start fires. |

- 3:45 to 4:10 (Provide Input)
Introduce tour guide/instructor for prevention trailer. Tour trailer.
- 4:10-4:20 (Check for comprehension)
Return to classroom, handout check sheets and have students check off what hazards they found in the trailer. Discuss briefly to insure understanding.
- 4:20 (Closure)
Have students drop off the checklist and pick up another as they are leaving. Tell them to use the second checklist to remove hazards from their home.

Alternative for the day:

Set up hazards before students arrive (matches/lighter down low, extension cords, pan left of kitchen stove, etc), handout checklists, give students ten minutes to find hazards (scavenger hunt style). Review findings.

Remediation:

Do checklist for schoolrooms, just a kitchen or bedroom have student complete.

Enrichment:

Have student brain storm all the things that can start a fire and then number the items on the list as to most often to least often cause of fires in Independence. Have them design and public awareness campaign to teach prevention of the most often cause of fire.

Class 8: Putting it all together Baby Sitter Practice

Daily Objective:

1. Role-play finding out the information necessary to handle an emergency while baby-sitting. (Anderson & Krathwohl, C3)

Assessment:

Materials, Media, Literature:

Literature:

None

Materials:

Juice boxes

Radio

Workbook

Overheads

Name Tags

Media

CD player

Overhead projector

Specific Steps of the Lesson Plan:

- | | |
|------------|--|
| 3:25-3:30 | Music and Juice. Talk to students. Name tags. |
| 3:30-3:35 | Review highlights of previous classes. Base this on what areas seemed to need reinforcement for previous classes |
| 3:35- 3:40 | (Anticipatory Set)
Taking care of others is an awesome responsibility. The only way to really be responsible is to make sure you are prepared to handle whatever you think may happen. Ask how many have responsibility for younger kids or stay home by themselves? (Use this information to make points through out the class). |
| 3:40-3:45 | (Stating Objectives)
Use overhead to review today's objectives. |

- 3:45 to 4:00 (Provide Input)
Using overhead of the Baby sitter information sheet. Review each section. Ask students why each piece of information might be important. Have them figure out what and why the information is needed.
- 4:00-4:15 (Check for comprehension)
Count off by threes. Assign each number group to a fire service person. Have students role play with fire service person (as the “parent”) the information they need to acquire.
- 4:15-4:20 (Closure)
Have students return to their seats. Ask them to look over what they were able to fill in. Did they get all the information they needed? Would it be hard to get it sometimes when the adult is trying to leave? Where else could they get some of the information? Now have them look at the types of information again and ask “Can you fill this out for your own home?” If not maybe you should fill one out tonight. Dismiss.

Alternative for the day:

Review information sheet as above, however have students fill out for their own home or have them pair up and fill it out for another student.

Remediation:

Provide Red Cross baby sitter handouts for student to review.

Enrichment:

Have students design their own emergency information card, with their business logo on top.

Class 9: Practice, Practice, Practice!

Daily Objectives:

1. Demonstrate in practical evolution what to do if you find someone unconscious

(Checklist) (Anderson & Krathwohl, C3)

2. Demonstrate in practical evolution what do for bleeding (checklist) (Anderson & Krathwohl, C3)
3. Demonstrate what to do for a baby choking on food. (Anderson & Krathwohl, C3)
4. Given one of the following fire scenarios be able to demonstrate the steps necessary to survive the situation. (Anderson & Krathwohl, C3)
 - a) Small kitchen fire
 - b) Fire in room waste paper (trash) can
 - c) House fire
 - d) Fire at school
5. Given an emergency situation be able to role play calling 911 and reporting the emergency (three key pieces of information)

Assessment: Students turn in check lists for review.

Materials, Media, Literature:

Literature:

None

Materials:

Juice boxes
Fire Fighters
Fire Inspectors
Fire Truck
Workbook
Overheads
Name Tags
Check Sheets
Fire extinguisher
Container with slips of paper with emergency scenarios
Bandaging Materials
Adult and baby Annie
Kitchen props

Media

CD player
Overhead projector

Specific Steps of Lesson Plan

Set up classroom in stations. Each station is to have a fire fighter or inspector to monitor student performance. Stations are to be resuscitation Annie, baby Annie, mock kitchen fire, choking victim, bleeding, home escape, 911 emergency calls. Number each station.

- 3:30- 3:35 (Anticipatory Set)
Tell the students we are just about at the end of our time together. Next week is the last week and what they have learned will be their responsibility to review and retain and use when and emergency happens and they can help. Today is to help reinforce all the practical skills they have learned.
- 3:35-3:40 (Stating Objectives)
Review the objectives from the first day of class.
- 3:40 to 3:45 (Provide Input)
Hand out checklists. Divide into twos and assign to a station. Explain to students that they are to give their check sheets to the person at each station to review the material and then demonstrate the activity. The person at the station will check off and initial the check sheet. Tell the students they are to turn in the sheets at the end of class. Explain to the students that they are to rotate through all the stations in numerical order, etc.
- 3:45-4:15 (Check for comprehension)
Students rotate through stations, practice and are checked off or material is reviewed and reinforced for comprehension.
- 4:15 – 4:20 (Closure)
Remind students that next week is the last class and we will be giving out certificate

Alternative for the day:

Review all activities with overheads then divide into groups of two and have each student verbal give the steps of each activity while being checked off the sheets by their partner.

Remediation:

None

Enrichment:

Additional information is available by taking classes through the Red Cross, boy and girl scouts, etc.

Class X: Post-test, Party and Certificates

Daily Objective:

1. At the completion of this class the students will have received a certificate of attendance in the program, positive reinforcement for their participation and a chance to visit with fire service personnel one-on-one.

Assessment: Post-test given.

Materials, Media, Literature:

Literature:

Certificates

Materials:

Pizza
Juice boxes
Fire Fighters
Fire Inspectors
Fire Truck
Post-test
Workbooks
Name Tags
Certificates

Media

CD player
CDs
Digital Camera

Specific Steps of Lesson Plan

3:30- 3-35 (Anticipatory Set)

This is the last class; we will spend a few minutes taking the posttest. Afterwards I will pass out certificates with the help of one of the fire fighters. Pictures will be taken for our new letter and some of them will be shown to the city council in our review of the program with them. Then we will turn on the music and have pizza and just talk for a while. Remind the students to do their best on the posttest because this is how we will try to get the program presented again. If we haven't been able to teach them the objectives then we probable will not be allowed to do the program again.

- 3:35-3:55 (Assessment)
Hand out posttest. Have students write their names on the test. Take test.
- 3:55to 4:00 (Provide Feedback)
Hand out certificates.
- 4:00-4:15 Pizza and time to visit
- 4:15-4:20 (Closure)
Thank each of them for coming. Invite to visit fire station. Tell their friends about the program.

Alternative for the day:

None

Remediation:

None

Enrichment: Become a fire fighter!

Appendix B

Item 1: Sample Pretest/Posttest

Name: _____

1. List three activities that members of the fire department do to prevent people from having a fire:
 1. _____
 2. _____
 3. _____
2. List five kinds of emergencies a fire fighter may be required to handle?
 1. _____
 2. _____
 3. _____
 4. _____
 5. _____
3. You walk in the kitchen at your house and find a frying pan on the stove on fire. Circle the two the things that must be done first?
 - a. Extinguish the fire
 - b. Make sure everyone is warned
 - c. Call or have some one call 911
 - d. Put a lid on the pan
 - e. Turn off the heat to the pan
4. When using a fire extinguisher what does P.A.S.S. stand for?

P _____

A _____

S _____

S _____
5. Circle the first three things that should be done if you find someone unconscious?
 - a. Start artificial respirations and chest compressions
 - b. Shake and shout to see if you can wake the person up
 - c. Call for help and/or 911
 - d. Open the airway and Look, Listen and Feel

6. What is the best way to stop a cut that is bleeding a lot (circle the correct answer)?
- a. Bandage
 - b. Tourniquet
 - c. Direct pressure
 - d. Call for help
7. Name one thing that can start a fire and tell one way to stop it from starting a fire:
- _____
- _____
8. Circle the three most important things you should tell the person that answers the phone when you call 911.
- a. your name
 - b. your home phone number
 - c. your home address
 - d. the location of the emergency
 - e. the phone number you are calling from
 - f. the type of emergency
9. What should every home have at least one of to warn the people inside that there is a fire?
- a. Fire alarm
 - b. Smoke detector
 - c. Fire extinguisher
 - d. Dog
10. How many ways out of each and every room should you find in order have a complete fire escape plan for your home?
- a. one
 - b. two
 - c. three
 - d. four

Item 2 Distribution according to Anderson's & Krathwohl's Taxonomy Table

Objective and assessment of each objective:

Objective:

List three activities that members of the fire department do to prevent people from having a fire. (Anderson & Krathwohl, A1)

Assessment:

List three activities that members of the fire department do to prevent people from having a fire:

4. _____
5. _____
6. _____ (Anderson & Krathwohl, A1)

Objective:

Be able to list five types of emergencies that members of the fire department may be called on to handle in order to stop the emergency from getting worse and help the people involved. (Anderson & Krathwohl, A1)

Assessment:

List five kinds of emergencies a fire fighter may be required to handle?

6. _____
7. _____
8. _____
9. _____
10. _____ (Anderson & Krathwohl, A1)

Objective:

List three areas of training that must be completed to be a firefighter. (Anderson & Krathwohl, A1)

Assessment:

In class discussion (Anderson & Krathwohl, A1)

Objective:

Given one of the following fire scenarios be able to demonstrate the steps necessary to survive the situation. (Anderson & Krathwohl, C3)

- a) Small kitchen fire
- b) Fire in room waste paper (trash) can
- c) House fire
- d) Fire at school

Assessment:

When using a fire extinguisher what does P.A.S.S. stand for?

P _____

A _____

S _____

S _____ (Anderson & Krathwohl, A1)

You walk in the kitchen at your house and find a frying pan on the stove on fire.

Circle the two the things that must be done first?

- a. Extinguish the fire
- b. Make sure everyone is warned
- c. Call or have some one call 911
- d. Put a lid on the pan
- e. Turn off the heat to the pan (Anderson & Krathwohl, C3)

Circle the three most important things you should tell the person that answers the phone when you call 911.

- g. your name
- h. your home phone number
- i. your home address
- j. the location of the emergency
- k. the phone number you are calling from
- l. the type of emergency (Anderson & Krathwohl, A1)

What should every home have at least one of to warn the people inside that there is a fire?

- e. Fire alarm
- f. Smoke detector
- g. Fire extinguisher
- h. Dog (Anderson & Krathwohl, A1)

How many ways out of each and every room should you find in order have a complete fire escape plan for your home?

- e. one
- f. two
- g. three
- h. four (Anderson & Krathwohl, A1)

Complete escape plan in class (Anderson & Krathwohl, C3)

Demonstrate use of fire extinguisher in practical evolution (checklist) (Anderson & Krathwohl, C3)

Objective:

Demonstrate what to do if you find someone unconscious (Anderson & Krathwohl, C3)

Assessment:

Circle the first three things that should be done if you find someone unconscious?

- e. Start artificial respirations and chest compressions
- f. Shake and shout to see if you can wake the person up
- g. Call for help and/or 911
- h. Open the airway and Look, Listen and Feel (Anderson & Krathwohl, C1)

Demonstrate in practical evolution what to do if you find someone unconscious (Checklist) (Anderson & Krathwohl, C3)

Objective:

Demonstrate what to do if you find someone bleeding (Anderson & Krathwohl, C3)

Assessment:

What is the best way to stop a cut that is bleeding a lot (circle the correct answer)?

- e. Bandage
- f. Tourniquet
- g. Direct pressure
- h. Call for help (Anderson & Krathwohl, C1)

Demonstrate in practical evolution what do for bleeding (checklist) (Anderson & Krathwohl, C3)

Objective:

Name the three things that start fires and tell a way to stop those from starting fires. (Anderson & Krathwohl, B3)

Assessment:

Name one thing that can start a fire and tell one way to stop it from starting a fire:

(Anderson & Krathwohl, B3)

Identify three things in prevention trailer that will start a fire and tell guide what to do for each one to make it safe (checklist). (Anderson & Krathwohl, B3)

Objective:

Role-play finding out the information necessary to handle an emergency while baby-sitting. (Anderson & Krathwohl, C3)

Assessment:

Circle the three most important things you should tell the person that answers the phone when you call 911.

- m. your name
- n. your home phone number
- o. your home address
- p. the location of the emergency
- q. the phone number you are calling from
- r. the type of emergency (Anderson & Krathwohl, B3)

What should every home have at least one of to warn the people inside that there is a fire?

- i. Fire alarm
- j. Smoke detector
- k. Fire extinguisher
- l. Dog (Anderson & Krathwohl, A1)

How many ways out of each and every room should you find in order have a complete fire escape plan for your home?

- i. one
- j. two
- k. three
- l. four (Anderson & Krathwohl, A1)

Objective:

Demonstrate what to do for a baby choking on food. (Anderson & Krathwohl, C3)

Assessment:

Perform all steps as listed on the assessment checklist in practical evolution (Anderson & Krathwohl, C3)

Objective:

Demonstrate what to do for a friend choking on food (Anderson & Krathwohl, C3)

Assessment:

Perform all steps as listed on the assessment checklist in practical evolution (Anderson & Krathwohl, C3)

Appendix C

Item 1: Department of Elementary and Secondary Education Standards

Show-Me Standards:

Performance Standards:

Students will demonstrate within and integrated across all content areas the ability to

- 1.10 apply acquired information, ideas and skills to different contexts as students, workers, citizens and consumers.
- 3.1 identify problems and define their scope and elements.
- 3.2 develop and apply strategies based on ways others have prevented or solved problems
- 3.3 develop and apply strategies based on one's own experience in preventing or solving problems
- 3.4 evaluate the processes used in recognizing and solving problems
- 3.5 reason inductively from a set of specific facts and deductively from general premises
- 3.6 examine problems and proposed solution from multiple perspectives.
- 3.7 evaluate the extent to which a strategy addresses the problem,
- 4.1 explain reasoning and identify information used to support decisions
- 4.3 analyze the duties and responsibilities of individuals in societies.
- 4.6 identify tasks that require a coordinated effort and work with others to complete those tasks
- 4.7 identify and apply practices that preserve and enhance the safety and health of self and others
- 4.8 explore, prepare for and seek educational and job opportunities

Knowledge Standards:

In Health and Physical Education, students in Missouri public schools will acquire a solid foundation, which includes knowledge of:
HP7 response to emergency situations.

Table 1 Test Results of Students in Pilot Program

Student	Pretest (X)	Posttest (Y)
1	11	20
2	15	19
3	15	21
4	10	21
5	6	10
6	4	7
7	14	24
8	19	23
9	15	23
10	12	23
N=10	$\bar{X}=12.1$	$\bar{Y}=19.1$

$$p < .0001$$

$$t = -7$$

$$r = .91$$

$$r^2 = .85$$

Appendix D

Item 1: Curriculum Vitae Dr. Widener

VITAE
Becky J. Widener
10810 S. Route N
Columbia, MO 65203
(573) 864-7918

OFFICE ADDRESS:

Columbia College
Department of Education
1001 Rogers Street
Columbia, MO 65216

(573) 875-7679 phone
(573) 875-7209 fax
bjwidener@email.ccis.edu

EDUCATION:

Doctor of Philosophy in Curriculum and Instruction of Social Studies
University of Missouri-Columbia 1996
Resource Area: Geography
Dissertation: The Influence of the Missouri Geographic Alliance on
Geographic Competence of Students in Missouri Public Schools

Master of Arts in Teaching
Webster University 1984
Related Field: Social Studies

Bachelor of Science in Education
Southeast Missouri State University 1969
Double Major: History and Social Science
Minor: General Home Economics
Missouri Life Teaching Certificate: Grades 7-12 Social Studies

PROFESSIONAL EDUCATION EXPERIENCE:

Assistant Professor, Columbia College, 1997-Present
Interim Chair of Education Department Fall Semester 01-02, Director of Teacher Education Program,
Director of Master of Arts in Teaching Program, EDUC 200 Foundations of Education, EDUC 230
Educational Psychology, EDUC 300 Techniques of Teaching, EDUC 302 Teaching Skills, EDUC 322
Educational Measurement and Assessment, EDUC 350/351 Advanced Field Experience I & II, EDUC 362
Teaching Social Studies, EDUC 422/424 Student Teaching, EDUC 504 Curriculum Design & Evaluation,
EDUC 505 Instructional Theory and Techniques, EDUC 508 Integrative Project, EDUC 532 Educational
Technology, EDUC 582 Evaluation of Teaching Effectiveness, Vice-President Faculty Association, Vice-
Chair Graduate Council, Chair of Search Committee for Geography/Geology faculty, Chair of Search
Committee for Education faculty, Vice-Chair of Teacher Education Coordinating Committee, Elections and
Professional Development Committee, Academic Assessment Committee, Graduate Council, Library and
Distance Learning Task Force, Human Subjects Protection Committee, North Central Association Study
Group V, Retention Council

Coordinator, Missouri Geographic Alliance 1995-1997
University of Missouri-Columbia

Adjunct Professor, University of Missouri-Columbia 1996-1997
Department of Curriculum & Instruction, Seminar in Geography Education

Supervising Student Teaching, Winter Semester, 1994
Department of Curriculum & Instruction
University of Missouri-Columbia College

Classroom Instructor, Sikeston High School, Sikeston, Missouri 1979-1992. World History, American History, Geography, Economics, Sponsored Student Council

Cooperating Teacher for Student Teachers from Southeast Missouri State University 1984-1990

Instructor, Missouri Baptist University, Bolivar, Missouri, summer 1989
Off-campus program in Dexter, Missouri

Substitute Teacher, East Prairie School District, East Prairie, Missouri 1978-1979

Classroom Instructor, Belton High School, Belton, Missouri 1969-1970 World History, General Home Economics, Co-sponsored school newspaper

CURRICULUM AND ASSESSMENT EXPERIENCE:

2001 MAP Assessment item rewrite for Missouri Department of Elementary and Secondary Education and Council of Chief State School Officers

2001 Map Assessment item bias review for Missouri Department of Elementary and Secondary Education and Council of Chief State School Officers

1999 Instructional Leadership Institute, National Council for the Social Studies, Washington, DC

1998-99 State Teacher Education Articulation Project (STEAP) for Missouri Department of Elementary and Secondary Education

1997-99 Program Committee and Executive Committee for state Environmental Education Conference co-sponsored by Missouri Department of Conservation and Missouri Environmental Education Association

1997-98 Co-investigator for Teaching Inquiry Methods for Environmental Studies (TIMES '97 & TIMES '98) Institutes. Grant project for Eisenhower Professional Development Funds and Missouri Coordinating Board for Higher Education

1996-97 State Collaborative Assessment of Social Studies for ACT and Missouri Department of Elementary and Secondary Education

1996-97 Task force for revision of Teacher Education Program, College of Education, University of Missouri-Columbia

1994 ACT achievement level setting for National Assessment of Educational Progress in Geography (12th grade level)

1991-92 Wrote Curriculum Guide for Geography, Sikeston High School

1985-86 Participated in writing directives for development of Missouri Mastery Achievement Test for Missouri Department of Elementary and Secondary Education

1985 Editor of Instructional Management System guides for Sikeston Public Schools

1984-85 Co-writer of Instructional Management System guide for American History, Sikeston

High School
1976 Council for Public Higher Education in Missouri

HONORS:

2000 Southeast Missouri State University, Alumni Merit Award nominee
1994 Who's Who in American Colleges and Universities
1993 Scholarship for Women in Geographic Education, National Council for Geographic Education
1993 PEO Scholar Grant

WORKSHOPS, INSTITUTES AND INSERVICE ACTIVITIES:

Co-Director Alliance Summer Geography Institute: University of Missouri-Columbia, 1997

Faculty: TIMES Institute—Eisenhower Professional Development Grant: University of Missouri-Columbia, 1997, 1998

Co-Director Advanced Alliance Summer Geography Institute for Environmental Geography: University of Missouri-Columbia

Co-Director Alliance Summer Geography Institute for Urban Geography: University of Missouri-Columbia, 1995

Coordinator: Statewide Geography Education Conference: University of Missouri-Columbia, 1992, 1993, 1994, 1995, 1996

Coordinator and Facilitator: Association of American Geographers ARGUS Institute: University of Missouri-Columbia, 1993

Participant: Advanced Alliance Summer Geography Institute: Puerto Rico, 1992

Facilitator: Advanced Alliance Summer Geography Institute: Southeastern U. S., 1990

Participant: Instructional Leadership Institute, National Geographic Society, 1989

Participant: Clinical Field Supervisors Institute, Southeast Missouri State University, 1989

Coordinator: Southeast Missouri District Geography Workshop, Cape Girardeau, MO, 1989, 1990, 1991

Facilitator: Alliance Summer Geography Institute, University of Missouri-Columbia, 1989

Participant: Alliance Summer Geography Institute, University of Missouri-Columbia, 1988

PROFESSIONAL AND CIVIC ORGANIZATIONS:

Missouri Association of Colleges of Teacher Education, Institutional Representative
Missouri Geographic Alliance
Missouri Council for the Social Studies, Vice-President two terms
National Council for the Social Studies, Chair Geography Special Interest Group
Kappa Delta Pi
Columbia Host Lions Club, Vice-President
Columbia College Relay for Life Team, Boone County Chapter of American Cancer Society
Phi Delta Kappa

PUBLISHED WORKS:

Senior Consultant for Missouri: Adventures in Time and Place, Macmillan/McGraw-Hill, 1997

A Different and Difficult Frontier: A Field Study of the Southeast Missouri Lowlands, for Alliance Summer Geography Institute co-authored with Dan Hermann, 1997

A Field Study of Illinois Landscapes, a study guide for Alliance Summer Geography Institute co-authored with Dan Hermann, 1995

Kansas City Public Television “A Great Current Running” lesson plans to accompany a four-part video tape and book by Charles Guesewelle, Great Plains National, 1995

GeoTeacher: the newsletter of the Missouri Geographic Alliance

“Swampeast Missouri: Its Geographic Origins”: technical article about Southeast Missouri Lowlands

“Line, Pattern, Harmony” a lesson plan regarding South Korean Culture

“The Arranged Marriage” a lesson plan with role playing regarding the return of Hong Kong to People’s Republic of China

“Women in Aprons” a lesson plan about pioneer women written for Women’s History Month

“Toxic Waste—Not in My Backyard!” A lesson plan of thematic mapping and toxic waste dumping

“Klondike Days: A Golden Era in Anglo-American History” a lesson plan integrating literature and geography

PROFESSIONAL INTERESTS:

Geographic Education
Curriculum Development
Teacher Education
Assessment

Historical Geography
Missouri Bootheel and Diversion Channel Drainage District
Cotton Vacation in Southeast Missouri Public School Districts

Historic Preservation
Handy Moore Log House--Southeast Missouri State Univ. Historical Interpretation Farm

FOREIGN TRAVEL:

Costa Rica, TIMES 1997 & 1998
Halifax, Nova Scotia, Canada, NCGE International Conference, 1993
Puerto Rico, Advanced Summer Geography Institute, 1992
Yucatan Peninsula, Mexico, 1992
Montreal, Quebec, Canada, 1991
South Korea, Sister City Exchange, 1989, 1990
Hong Kong, extension of Sister City Exchange, 1989
Beijing, People’s Republic of China, extension of Sister City Exchange, 1989

Item 2: Curriculum Vitae Dr. Ronald Taylor

Ronald D. Taylor, Ed. D.

Columbia College

Education and Psychology Department

1001 Rogers
Columbia, MO 65216
<rtaylor@mail.trib.net>

<rdtaylor@email.ccis.edu>

Education:

1984	Ed. D.	Educational Psychology	University of Houston
1969	M.S.	Foundations of Education	Troy State University
1966	B. S.	Psychology	Troy State College

History of Professional Experience:

Present - 1998 Professor of Psychology, Columbia College, Columbia, MO

1998 - 1996 Associate Professor of Psychology, Columbia College, Columbia, MO

1996 - 1988 Assistant Professor of Psychology, Columbia College, Columbia, MO

1988- 1986 Research Associate, Department of Educational Psychology, College of Education, University of Houston, Houston, TX. Concurrent Appointment: Adjunct Professor of Educational Psychology, Graduate Education Faculty, Department of Educational Psychology, College of Education, University of Houston.

1986 - 1984 Assistant Professor of Psychology, Department of Education, Dickinson State College, Dickinson, ND. Concurrent Appointments: Visiting Graduate Studies Lecturer in Education and Psychology, College of Continuing Studies, North Dakota State University; Visiting Graduate Studies Lecturer in Educational Psychology, University of Houston.

1984 - 1982 Doctoral Resident and Teaching Assistant, Department of Educational Psychology, College of Education, University of Houston, Houston, TX

1982 - 1981 Research and Training Consultant, Houston, TX

1981 - 1971 Administrator, Texas Department of Corrections, Huntsville, TX

1981 - 1978 Assistant Director of Corrections

1978- 1977 Interim Director of Corrections, Arizona Department of Corrections, Phoenix, AZ

1978 - 1976 Assistant to the Director of Corrections

1976 - 1973 Public Information Officer

1973 - 1972 Educational Research Specialist

1972 - 1971 Assistant Superintendent, Pre-release Center

1971 Correctional Counselor

1971 - 1966 School Counselor

1971 - 1969 Enterprise City School District, Enterprise, AL

1969 - 1966 Monroe County Board of Public Instruction, Key West, FL

Honors and Awards:

1997 National Science Foundation Chautauqua Fellow

1997 Who's Who in the World

1994 Governor's Award for Excellence in Teaching

1990 Phi Delta Kappa

1969 Kappa Delta Pi

1969 Governor's Staff Appointment, Honorary Lieutenant Colonel

Publications:

Books:

Taylor, R. D., & Monroe, G. (1974). A time to forget—remembered. Huntsville, TX: Texas Department of Corrections.

Taylor, R. D. (1999). Figurative representation of brain function and status. Manuscript in progress.

Taylor, R. D. (1999). Neuroeducation: Initiating an educational neuroscience perspective on teaching and learning. Manuscript in progress.

Journal Articles, Presentation Papers, and Book Reviews:

Brooks, C., Taylor, R. D., Hardy, C-A., & Lass, T. (1999). Eating disorder characteristics exhibited by weightlifters, wrestlers, and exercisers. Psychological Reports, Submitted for publication.

Taylor, R. D. (1997). Educational equity of married or engaged partners. Psychological Reports, 81, 401-402.

Taylor, R. D., & Hardy, C-A. (1996). Careers in psychology at the associate's, bachelor's, master's and doctoral levels. Psychological Reports, 79, 960-962.

Taylor, R. D. (1994). Reassessing performance based assessment. Washington, DC: Clearinghouse on Assessment and Evaluation. (ERIC Document Reproduction Service No. ED 366 647)

Taylor, R. D. (1993, November). Back to the future in assessment: Problems with performance based assessment. Paper presented at the Fall Convention of the Missouri Unit of the Association of Teacher Education, Osage Beach, MO.

Brady, M. P., Swank, P. R., Taylor, R. D., & Freiberg, H. J. (1992). Teacher interactions in mainstreamed social studies and science classes. Exceptional Children, 58 (6), 430-440.

Taylor, R. D. (1991, November). Crisis intervention with the aged and chronically disabled. Paper presented to the Missouri Division of Aging, Columbia, MO.

Taylor, R. D., Hawkins, J., & Brady, M. P. (1991). Extent, type, preferences and consequences of crisis intervention training for teachers. Educational Psychology, 11 (2), 143-150.

Taylor, R. D., Brady, M. P., & Swank, P. R. (1991). Crisis intervention: Longer-term training effects. Psychological Reports, 68, 513-514.

Hawkins, J., Taylor, R. D., & Brady, M. P. (1991, March). Extent, type, preferences and consequences of crisis intervention training for teachers: An overview. Paper presented at the Fifth Annual Phi Delta Kappa Research into Practice Conference, Houston, TX.

Hawkins, J., Brady, M. P., Hamilton, R., Williams, R. E., & Taylor, R. D. (1991, February). The effects of independent and peer guided practice during instructional pauses on the academic performance of students with mild handicaps. Paper presented at the Houston Symposium on Research in Educational Psychology, Houston, TX.

Hawkins, J., Brady, M. P., Hamilton, R., Williams, R. E., & Taylor, R. D. (1991, January). The effects of independent and peer guided practice during instructional pauses on the academic performance of students with mild

handicaps. Paper presented at the Fourteenth Annual Meeting of the Southwest Educational Research Association, San Antonio, TX.

Paset, P., & Taylor, R. D. (1991). Black and white women's attitudes toward interracial marriage. Psychological Reports, 69, 753-754.

Meisgeier, C., & Taylor, R. D. (1990). Identifying educational diagnostician personality typologies: An examination of the descriptive validity demonstrated by the Keirsey Temperament Sorter. Dialog, 18 (1), 29-42.

Taylor, R. D., Hawkins, J., Dunathan, N., & Williams, R. E. (1989, October). What should we be teaching teachers? The educational psychology course content dilemma. Paper presented at the Mid-America Regional Conference of the Association of Teacher Educators, Southeastern Oklahoma State University, Durant, OK.

Freiberg, H. J., Brady, M. P., Swank, P. R., & Taylor, R. D. (1989). Middle school interaction study of mainstreamed students. Journal of Classroom Interaction, 24, 31-42.

Brady, M. P., Taylor, R. D., & Hamilton, R. (1989). Differential measures of teachers' questioning in mainstreamed classes: Individual and classwide patterns. Journal of Research and Development in Education, 23(1), 10-17.

Taylor, R. D., & Spiess, G. A. (1989). Effects of age on congruence between adults' and youths' ratings of life event stressors. Psychological Reports, 65, 1017-1018.

Hamilton, R., Brady, M. P., & Taylor, R. D. (1989, April). Classifying teachers' question asking behavior: Frequency of occurrence. Paper presented at the national meeting of the American Educational Research Association, San Francisco, CA.

Swank, P. R., Novy, D., Taylor, R. D., Brady, M. P., & Freiberg, H. J. (1989, April). Assessing the reliability of behavioral measures from the Stallings Observation System. Paper presented at the national meeting of the American Educational Research Association, San Francisco, CA.

Swank, P. R., Taylor, R. D., & Brady, M. P. (1989, April). Classroom observation systems: What you get depends upon how and where you look. Paper presented at the national meeting of the American Educational Research Association, San Francisco, CA.

Taylor, R. D., Brady, M. P., Swank, P. R., & Hawkins, J. (1989). The effects of antecedent cues on teachers' and mental health workers' perceptions of students' life event stressors. Educational Psychology, 9 (1), 53-61.

Brady, M. P., & Taylor, R. D. (1989). Interaction consequences in mainstreamed middle school classes: Reinforcement and corrections. Remedial and Special Education, 10 (2), 31-36.

Taylor, R. D., Brady, M. P., & Swank, P. R. (1989). Effective and affective measures of classroom interactions: An integrative teaching strategy. Journal of Humanistic Education and Development, 27, 177-188.

Swank, P. R., Taylor, R. D., Brady, M. P., & Freiberg, H. J. (1989). Grouping students in mainstreamed middle school classrooms. NASSP Bulletin, 73, 62-67.

Brady, M. P., Swank, P. R., Freiberg, H. J., & Taylor, R. D. (1988). Teacher-student interactions in middle school mainstreamed classes: Differences with special and regular education students. Journal of Educational Research, 81 (6), 332-340.

Swank, P. R., Taylor, R. D., Brady, M. P., & Freiberg, H. J. (1988). Sensitivity of classroom observation systems: Measuring teacher effectiveness. Journal of Experimental Education, 57 (2), 171-186.

Taylor, R. D., Williams, R. E., & Hawkins, J. (1988). Diagnostic services for LEP children: A needs survey. Dialog, 16 (3), 50-60.

Brady, M. P., Taylor, R. D., Freiberg, H. J., & Swank, P. R. (1988). Middle school study of mainstreamed students dissemination report: A summary of year one findings and year two research activities. Reston, VA:

National Clearinghouse on Exceptional Children. (ERIC Document Reproduction Service No. ED295 364)

Freiberg, H. J., Brady, M. P., Swank, P. R., & Taylor, R. D. (1988, April). Middle school interaction study of mainstreamed students. Paper presented to the national meeting of the American Educational Research Association, New Orleans, LA.

Brady, M. P., & Taylor, R. D. (1987). Book review. (Computers and exceptional individuals). Journal of Research on Computing in Education, 20 (2), 188-189.

Taylor, R. D., Brady, M. P., & Swank, P. R. (1987, March). Does crisis intervention training change teachers' beliefs about helping skills and behaviors? Paper presented to the Phi Delta Kappan Research Into Practice Conference, Houston, TX.

Taylor, R. D. (1985). Neuropsychological data relating to cognitive changes in adults: A selective review of limiting factors and research strategies. Columbus, OH: National Clearinghouse on Adult, Career, and Vocational Education. (ERIC Document Reproduction Service No. ED251 695)

Taylor, R. D. (1985). Diagnostic validity of the Minnesota Percepto-Diagnostic Test for Adults: A meta-analysis. Dissertation Abstracts International, 46/04A, 935.

Meisgeier, C., Taylor, R. D., Williams, R. E., Gaa, J. P., & Boodoo, G. W. (1984). Diagnostician interpretation of design-drawing tests: Implications for multi-variable sensitivity. Dialog, 12 (3), 45-60.

Taylor, R. D., & Meisgeier, C. (1984). Diagnostician personality features and job performance: Topical elements for future research. Dialog, 12 (1), 5-18.

Taylor, R. D. (1981, May). Annual review of adult correctional programs in Texas. Paper presented at the annual conference of the Texas Corrections Association, Ft. Worth, TX.

Taylor, R. D. (1980, May). Annual review of adult correctional programs in Texas. Paper presented at the annual conference of the Texas Corrections Association, Dallas, TX.

Taylor, R. D. (1980, May). Adult correctional policies: Impact on local civic and social programs. Paper presented at the annual meeting of the Austin/Travis County Social Policies Advisory Commission, Austin, TX.

Taylor, R. D. (1980, May). The influences of familial relationships on correctional programming. Paper presented to the State Planning Commission for the White House Conference on Families, San Antonio, TX.

Taylor, R. D. (1978, August). The public affairs office and its function in correctional crisis situations. Proceedings of the One Hundred Eighth Congress on Corrections. College Park, MD: American Correctional Association.

Honors Research, Master of Teaching (MAT)

Integrative Projects and Doctoral Dissertations Supervised

Navarro, M. (1999). Patient's behavioral expectations of dignity and respect shown by hospital caregivers. MAT Integrative Project, Columbia College, Columbia, MO.

Thornhill, B. (1999). Stress factors that lead to Mental Health professionals' job burnout. MAT Integrative Project, Columbia College, Columbia, MO.

Daigle, L. (1999). The relationship between parental and friendship attachment styles. MAT Integrative Project, Columbia College, Columbia MO.

Davis, S. (1999). Vehicular emergency treatment of emotional needs: Experience and occupational effects. MAT Integrative Project, Columbia College, Columbia, MO.

Beiswinger, V. (1999). At-risk students: Early intervention effects and distribution by grade. MAT Integrative Project, Columbia College, Columbia, MO.

Link, T. (1999). The relationship between early adolescent self-concept and involvement in school and community extracurricular activities. MAT Integrative Project, Columbia College, Columbia, MO.

Southerland, S. (1999). Pre-service teachers inclusion concerns. MAT Integrative Project, Columbia College, Columbia, MO.

Brooks, C. (1998). Eating disorder characteristics exhibited by weightlifters, wrestlers, and exercisers. MAT Integrative Project, Columbia College, Columbia, MO.

Carver, R. (1992). Attitudes and perceptions regarding participation of females in Catholic Church activities. Honors Research Project, Columbia College, Columbia, MO.

Paset, P. (1991). Gender by race effects on attitudes toward interracial marriage. Honors Research Project, Columbia College, Columbia, MO.

Author, E. (1990). Perceived adequacy of training for law enforcement officers who must detain and transport mentally ill persons. Columbia College, Honors Research Project, Columbia, MO.

Hawkins, J. (1990). Effects of independent and peer-guided practice during instructional pauses on the academic performance of students with mild handicaps. Doctoral Dissertation, University of Houston, Houston, TX.

Research in Progress

Taylor, R. D. (1999). Figurative representation of brain function and status. Manuscript in progress.

Taylor, R. D. (1999). Neurodidactology: Studying teaching and learning from the neuroscience perspective. Manuscript in progress.

Taylor, R. D. (1999). Gender differences in willingness to assist the suicidal behavior of others. Research in progress.

Professional Associations

American Educational Research Association

Division of Counseling and Human Development

Division of Learning and Instruction

Division of Post-secondary Education

Division of Measurement and Research Methods

Division of Teaching and Teacher Education

Brain and Education Special Interest Group

Phi Delta Kappa

Kappa Delta Pi

Cambridge Center for Behavioral Studies

Missouri Unit, Association of Teacher Educators